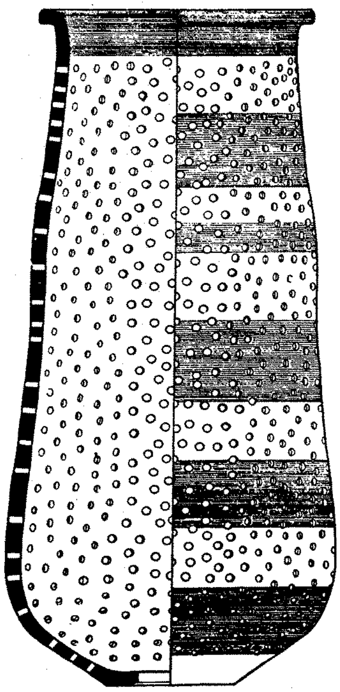
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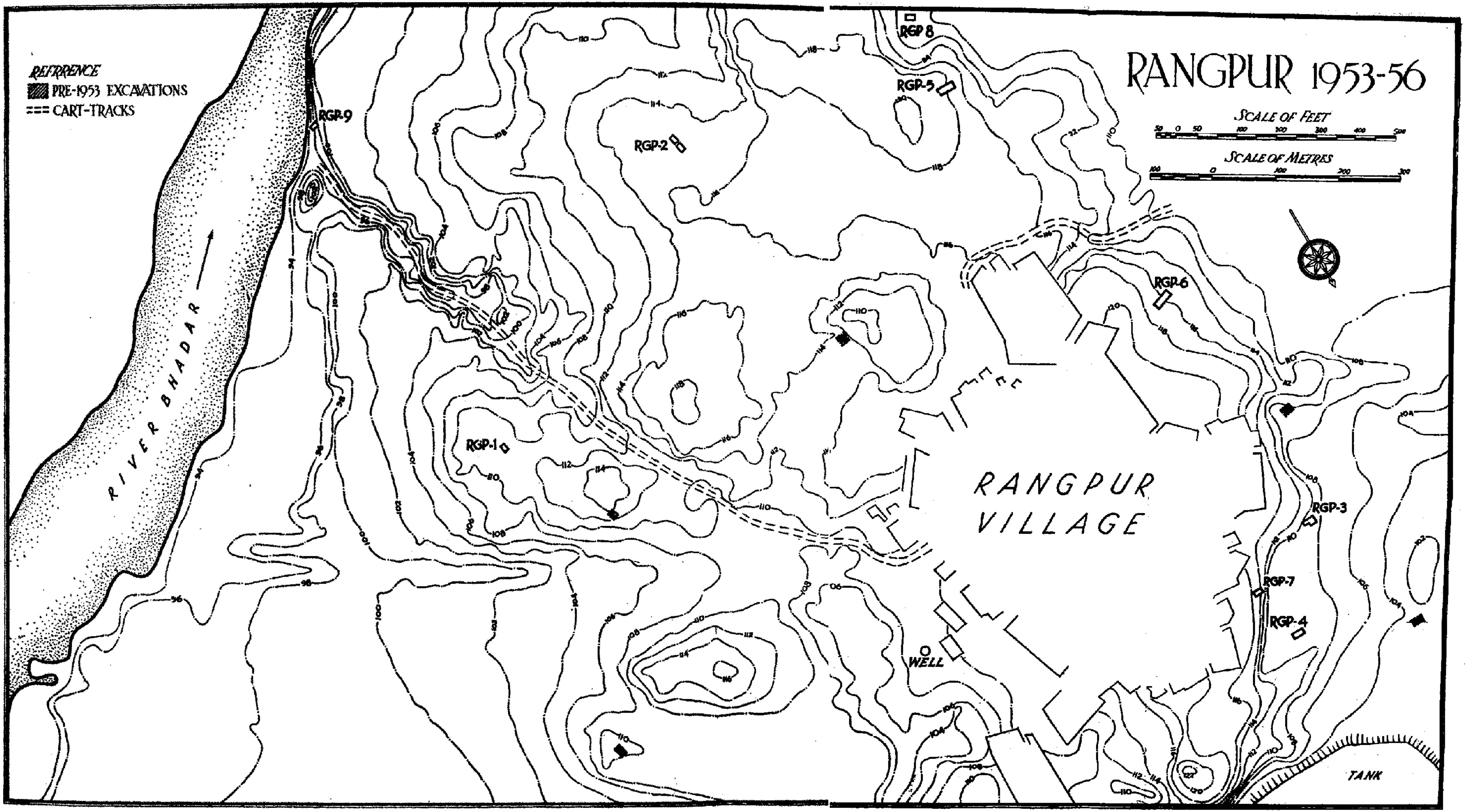


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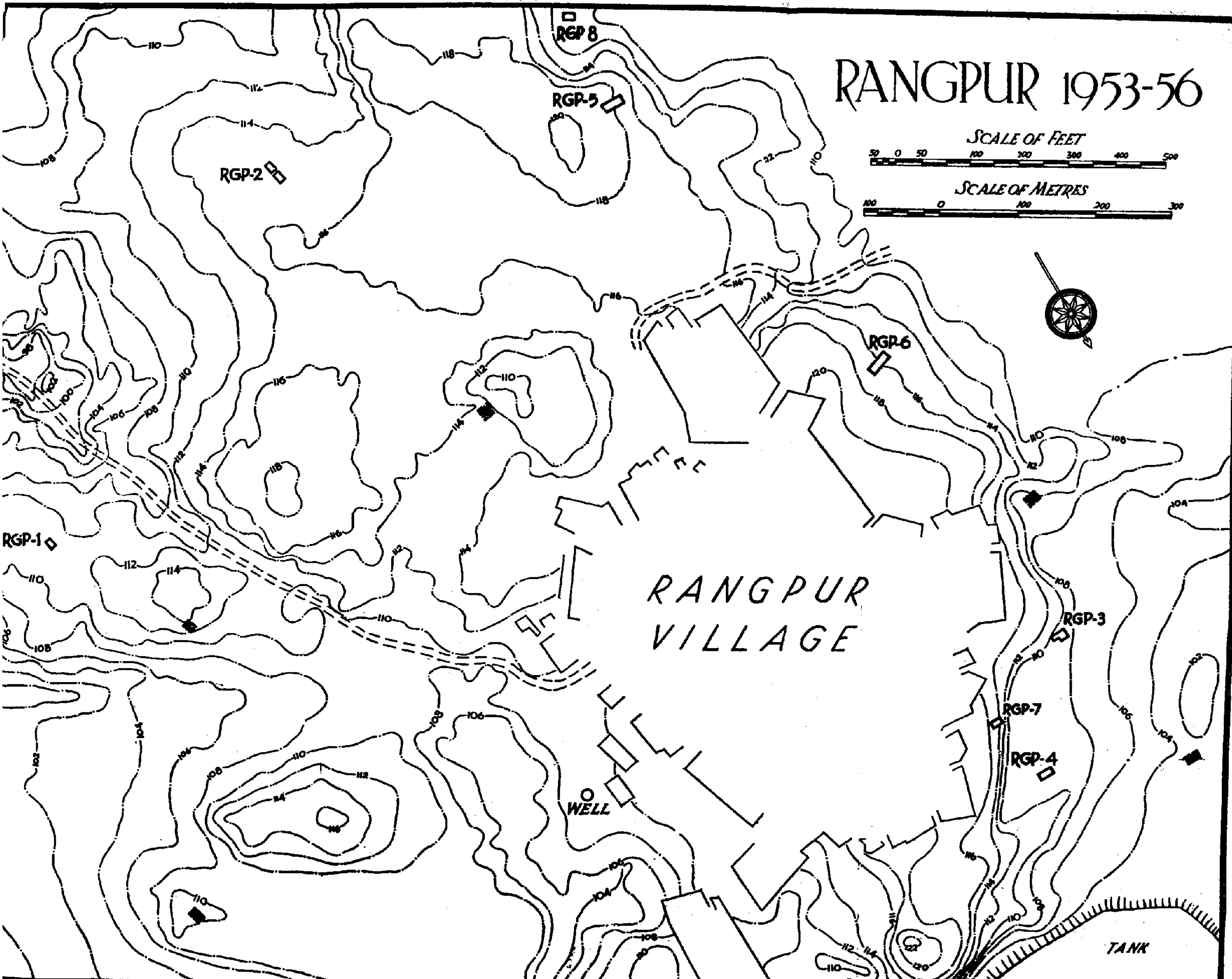
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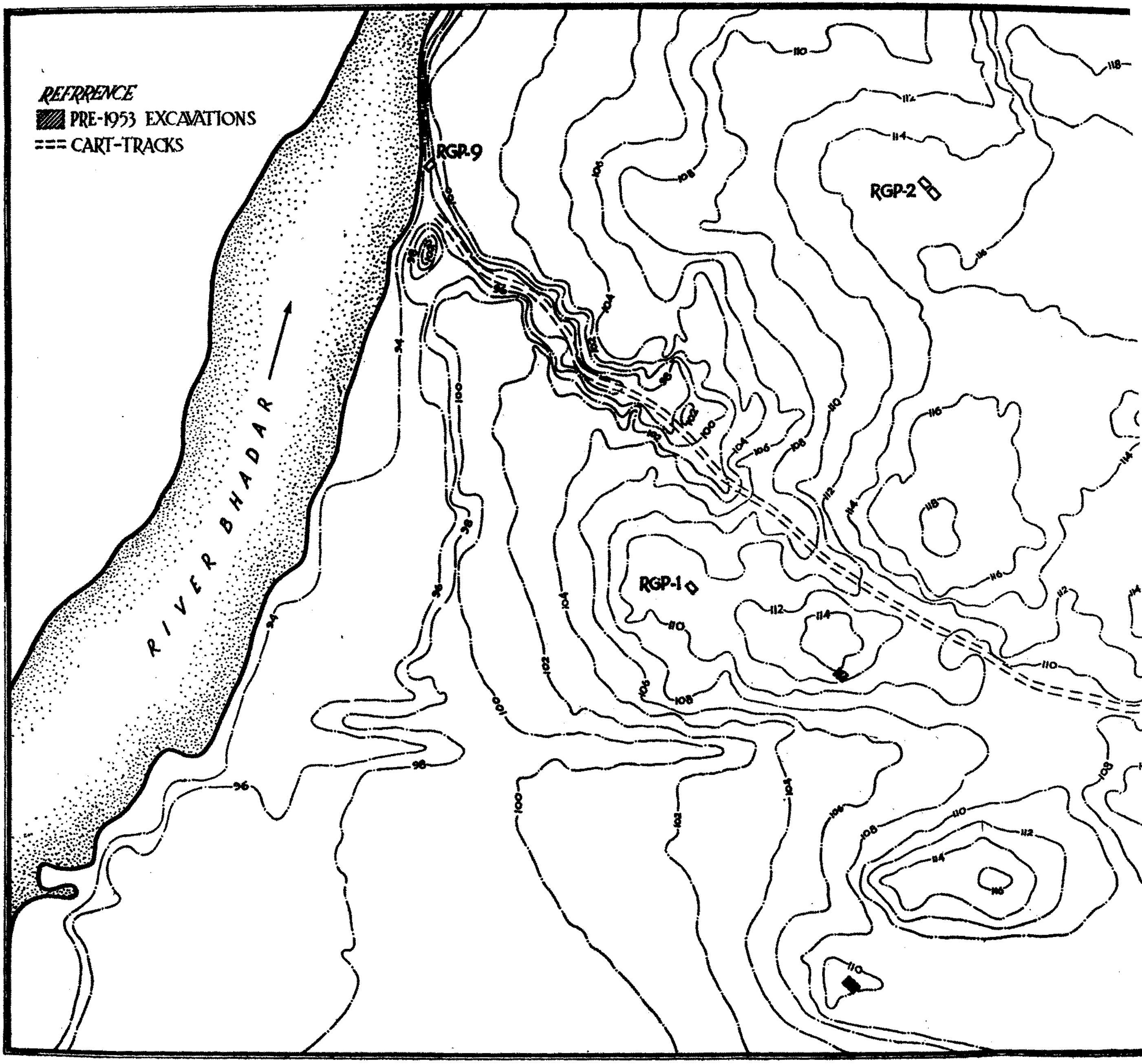
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1963



RANGPUR 1953-56
REFRRENCE
PRE-1953 EXCAVATIONS
CART-TRACKS
SCALE OF FEET
SCALE OF METRES
RIVER BHADAR
RANGPUR VILLAGE
RGP-1
RGP-2
RGP-3
RGP-4
RGP-5
RGP-6
RGP-7
RGP 8
RGP-9
WELL
TANK


To face p. 6


RANGPUR 1953-56
SCALE OF FEET
50 0 50 100 200 300 400 500
SCALE OF METRES
100 0 100 200 300
RANGPUR VILLAGE
RGP-1
RGP-2
RGP-3
RGP-4
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REFRRENCE
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RGP-9
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RGP-1

To face p. 6

# EXCAVATION AT RANGPUR AND OTHER EXPLORATIONS IN GUJARAT

By S. R. Rao

WITH CONTRIBUTIONS BY DR. B. B. LAL, BHOLA NATH, S. S. GHOSH & KRISHNA LAL

PAGE

THE FOLLOWING SECTIONS ARE IN PART 2 OF THIS PDF

# I. INTRODUCTION

## A. General observations

SPEAKING OF THE PAINTED GREY WARE PEOPLE, AN ARCHAEOLOGIST WROTE IN 1955: 'While, therefore, it is admittedly premature to hold that the latter (Painted Grey Ware) people were no other but the Aryans, it is doubly premature to say that the Aryans had nothing to do with the disappearance of the Harappans. Even if that be the future consensus, the possibility will remain that the descendents of the Harappans, after the end of their glorious days, lived somewhere in India, still holding to their culture, if in a modified form, to contribute its traits to the pattern of Indian culture, either directly or through the Aryans or some other agency. Otherwise the existence of the Harappan elements in Indian culture will remain unexplained.'[1]

The present report deals with the excavation at Rangpur and exploration of several protohistoric sites in Gujarat, where the Harappans had settled down during the glorious days of their culture. Their descendents are found to have lived here for five centuries more, still holding to their culture in a modified form and directly making substantial contributions to the pattern of Indian culture both in its physical and metaphysical aspects. The story of the southward extension of the Harappa culture, its survival in later times in a decadent form and its transformation into another culture is narrated here. It also largely explains the existence of the Harappan elements in later Indian culture.

Rangpur (lat. 22° 26′ E.; long. 71° 55′ N.) is a small village in Limbdi Taluka of District Surendranagar in Gujarat, situated on the bank of the river Bhadar (pl. I) and has been known to archaeologists for a long time as a southern outpost of the Harappa culture. It lies 85 miles south-west of Ahmadabad and 4 miles north-west of Dhandhuka, a railway-station on the metre-gauge section of the Ahmadabad-Botad line. The present village is perched on the western and northern edges of the mound measuring 3600 ft. north-south and 2800 ft. east-west and occupies roughly one-fourth of the total area of habitation in the protohistoric period. The river Bhadar, an ancient flow-channel of which is still traceable on the western side of the mound, now flows along the south-eastern margin. During the annual floods large chunks of the ancient mound are swallowed up by the river (pl. II). A rain-gully used as a cart-track at present runs north-south, cutting across the 15-ft. high occupation-débris. Two terraces, one in the centre of the mound and the other slightly lower to the south-east of the former, can be seen. Sloping to the north-west, the mound gradually merges with a shallow nullah, which marks the original flow-channel of the river and is at present an outlet for the tank. The rain-gullies and river-cuttings have exposed the ancient habitation-débris wherein potsherds can be picked up easily. The loose greyish deposit on the surface of the mound in the southern and eastern sectors is mostly due to the erosion of habitation-layers.

In the digging of the ancient mound at Rangpur in 1934 for the construction of a road, large quantities of painted pottery were unearthed and sent to Shri Madho Sarup Vats, Superintendent of the Western Circle, Archaeological Survey of India, for examination. At the invitation of the Darbar of the former Limbdi State, he excavated the site in 1935. On the basis of the painted designs and pottery-types analogous to those of Harappa, he considered Rangpur an outpost of the Harappa culture.[2] Subsequently, Dr. G. S. Ghurye

[1] A. Ghosh in *Ancient India*, nos. 10 and 11 (1954 and 1955), p. 3.

[2] Madho Sarup Vats in *Annual Report of the Archaeological Survey of India*, 1934-35 (1937), pp. 34-38 and pls. XII-XIV.

of the University of Bombay conducted a small-scale excavation at the site in November 1936 and confirmed the view of Vats.[1] The site was again tapped by Dr. M. G. Dikshit of the Deccan College, Poona, in March 1947 with a view to finding out traces of pre-Harappa culture, if any, by digging deeper down to the natural soil. However, he came to the conclusion that the Rangpur culture had no generic or cultural affinity with Harappa and that it represented a post-Harappan phase.[2] Rangpur was again excavated by the Department of Archaeology, Government of India, during the years 1953 to 1956 under the author's supervision. The circumstances necessitating an excavation for the fourth time are briefly stated below.

There was no important site of the Harappa culture left in post-partition India, and further research in the protohistory of India aimed at closing the gap in Indian history between the supposed end of the Harappa culture in *circa* 1500 B.C. and the beginning of the historical period in the sixth century B.C. was hampered.

The necessity of finding Harappan sites within the Indian borders acted as an incentive for exploration in the regions east and north of the Indus river (fig. 1). A. Ghosh was able to locate, during the years 1951 to 1953, as many as thirty Harappan sites in the dried-up beds of the Ghaggar river and its tributary, the Chautang, in Ganganagar District of north Rajasthan.[3] Further north, in Ambala District of Panjab, Rupar, a Harappan site near Kotla-Nihang, came to be excavated by Dr. Y. D. Sharma during the years 1953 to 1955. The discovery of an Indus seal, among other objects, at Rupar established the northward extension of the Harappa culture. For its southward extension it was found necessary to subject the site of Rangpur to a thorough and systematic excavation before accepting or rejecting once for all its suspected Harappan affinities.

While examining the north-western parts of the mound at Rangpur (pl. III) in 1953, the author noticed a drain of kiln-burnt bricks (pl. IV A) similar in construction to those at Harappa, associated with painted pottery of unmistakable Harappan affinities. None of the previous excavators had tapped that part of the mound. Accordingly, trenches were laid there; besides structural remains, the portable finds, such as pottery, personal ornaments, tools and weapons, recovered in the excavation established that Rangpur was a true Harappan settlement. Excavation in other parts of the mound, especially RGP 2 (pl. IV B), revealed the survival of the Harappa culture till later times.

The excavation lasted from December 1953 to March 1954 and again from November 1954 to February 1955. Two small trenches were sunk in April 1956 also.

The main physical features of Gujarat (fig. 2) are mentioned here in order to show how certain areas attracted the Harappans, while others acted as a barrier to their expansion. For example, the indented coastline with convenient anchorages promoted the development of international trade and interchange of cultures, and the fertile river-valley afforded unlimited opportunity for expansion and development of agriculture. On the other hand, the barren hills and swift-flowing rivulets with limited water-supply and cultivable land prevented the development of large settlements. However, the hills provided an easy shelter to the primitive folk forced out of the more fertile coastline and river-valleys. Thus, we find sometimes a primitive culture in the hills alongside a highly-developed urban civilization in the alluvial plains.

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[1] G. S. Ghurye in *Journal of the University of Bombay*, VIII, 1 (July 1939), p. 11.

[2] M. G. Dikshit in *Bulletin of the Deccan College Research Institute*, XI, 1 (Dec. 1950), p. 16.

[3] A. Ghosh, 'The Rajputana Desert—its archaeological aspect', *Bulletin of the National Institute of Sciences of India*, I, 1 (1952), pp. 37-42.

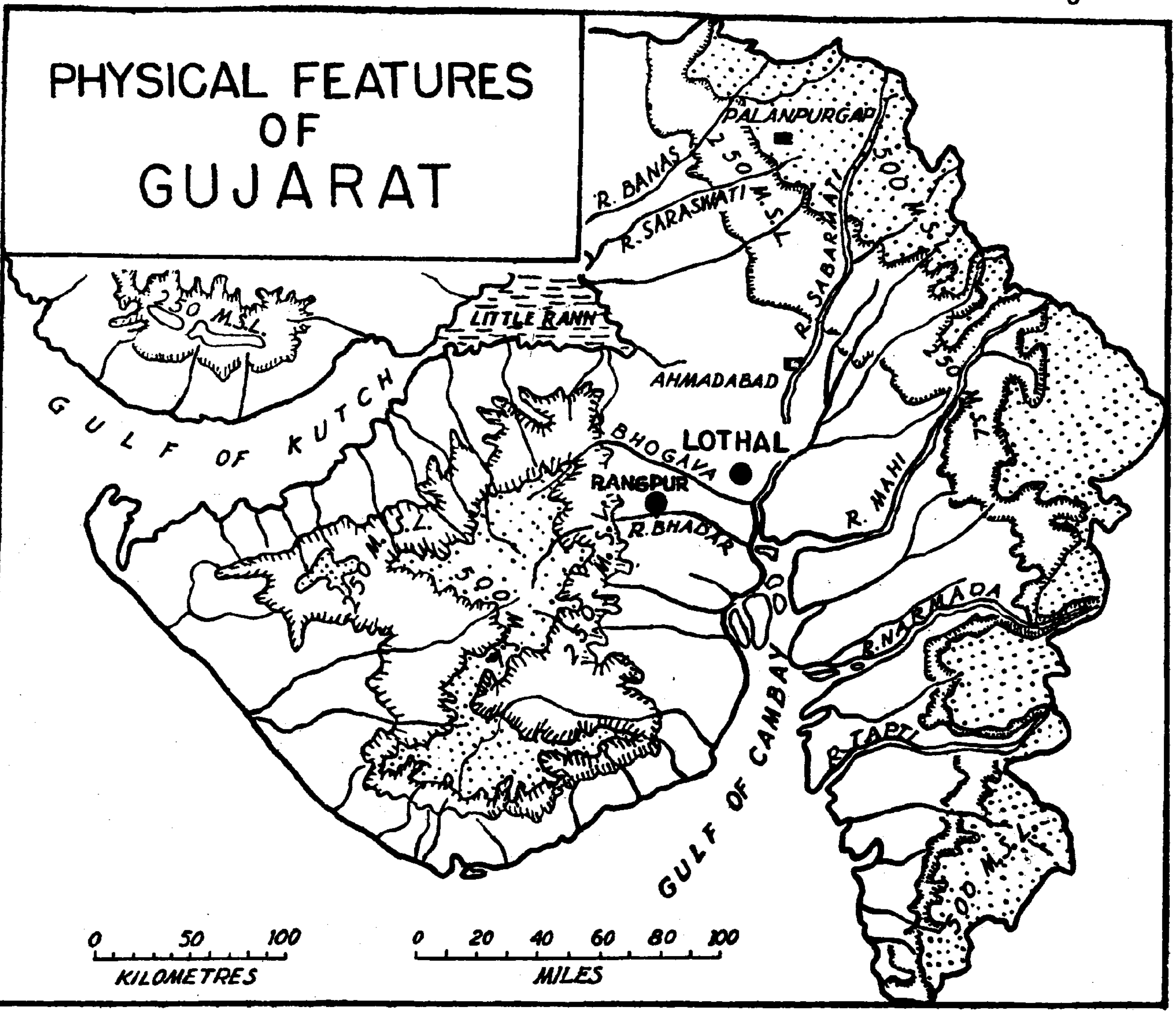

PHYSICAL FEATURES
OF
GUJARAT
PALANPURGAP
R. BANAS
R. SARASWATI
R. SABARMATI
250 M.S.L.
500 M.S.L.
LITTLE RANN
AHMADABAD
GULF OF KUTCH
BHOGAVA
LOTHAL
RANGPUR
R. BHADAR
R. MAHI
R. NARMADA
R. TAPTI
GULF OF CAMBAY
0 50 100
KILOMETRES
0 20 40 60 80 100
MILES

Fig. 2

Kathiawar is almost a square peninsula projecting into the Arabian Sea and joined with the mainland by a process of the silting up of the shallow sea by the deposits of the Sabarmati, Saraswati and Banas rivers. Almost the whole of Kathiawar is an undulating plain with several hills and a high plateau in the centre. The salt-charged plains of the east and west give place to rich coastal tracts of the south, whereas the Rann in the north is a desolate waste.

The three main divisions of Kathiawar are the coastal region, inland plains and hills.

The coastal region is broken by mouths of rivers and creeks affording a good shelter for boats and ships, while the rest of it is marshy and salty waste. The old-style ports are Bedi-Bandar near Jamnagar, Porbandar, Veraval, Kodinar, Talaja and Dholera, in close proximity of which Late Harappan settlements have been discovered (fig. 4). Behind the coastal strip is a fertile region drained by several rivers radiating from the central highlands. The main rivers of the peninsula are the Shetrunji and the Bhadar near Rajkot. Others, such as the Bhogava, Limbi-Bhadar and Utavali, are of minor importance. The Sabarmati, on the estuary of which Lothal, the most important Harappan settlement in Gujarat, is situated, flows through north Gujarat and joins the sea near the Gulf of Cambay. The Bhadar river descends from the hills near Rangpur and flows past Rangpur further south sluggishly as a meandering stream, until it disappears in the salty waste near the Dholera creek.

## B. Previous excavations at Rangpur

Vats was the first archaeologist to excavate the Rangpur mound in 1935. He laid three trenches, A, B and C, the first two being located in plot no. 150 near the village. Natural soil was not reached in any cutting. In the first stratum he noticed terracotta triangular cakes, the shoulder of a buff-coloured vase, a sherd painted with plant-motif and a small standard dish. In the second stratum goblets, perforated cylindrical heaters, sling-balls and sherds painted in black-over-red were found.[1] Trench C was laid 150 yards south-east of the village but was abandoned after digging a few feet. Apart from the Harappa pottery-types and painted designs he noticed some sherds which he considered as resembling those from Cemetery H of Harappa and from Shahi Tump.

In 1937, Dr. G. S. Ghurye sank eight trial-pits, six of them to the south of the Dhandhuka track and two in the northern sector of the mound. He came across similar pottery in all pits except the one situated nearest to the track-road of the village. Pottery-pieces, microliths and other finds from the excavation are illustrated in his report.[2] Both Vats and Ghurye considered Rangpur a Harappan site but did not distinguish the Harappa culture from the post-Harappa ones.

Dr. M. G. Dikshit excavated at Rangpur once again in 1947 with a view to seeing if any culture of the pre-Harappa period could be traced by digging deeper. He did not come across structural remains but mentions definite evidences of occupation in three successive layers. Dikshit distinguished three phases of the Rangpur culture, which, according to him, represents a post-Harappa culture.[3] These three phases should not be mistaken for the three distinct cultural Periods noticed in the course of the 1953-56 excavation, as a result of which (below, p. 13) a microlithic culture (Period I) was encountered in the

[1] Vats, *op. cit.*, p. 35.
[2] Ghurye, *op. cit.*, pls. I-IX.
[3] Dikshit, *op. cit.*, p. 3.

earliest occupation-deposit underlying a barren layer separating the Harappan deposit from that deposit. The Harappa culture has been divided here into three Sub-periods, viz. II A, II B and II C. This was succeeded by the Lustrous Red Ware culture assigned to Period III. Dikshit did not come across settlements of Periods I and II A, which represent respectively the microlithic culture and the true Harappa culture, owing to the fact that the north-western sector of the mound was not excavated by him.

The three phases of the Rangpur culture, according to Dikshit, represent the formative stage, exuberance and decline of a post-Harappa culture. He mentions carinated bowls with a red lustre, pedestals of stemmed bowls in the red ware and bowls in the black-and-red ware as the characteristic ceramic types of phase III in the late levels of Rangpur. Phase II is, according to him, noted for a bichrome ware. Large dishes are among its prominent types. This phase is said to indicate the exuberance of the Rangpur culture. His phases II and III can be equated roughly with the Transition Phase of the Harappa culture (Period II C) and the Lustrous Red Ware culture (Period III) of the present excavation. The so-called exuberance noticed by Dikshit in layers 5 to 8 of his trenches is of the Transition Phase of the Harappa culture, when the traditions of painting were revived and new types and technique of treatment of the vessel-surface were evolved. Phase I (layers 8 to 13) of Dikshit, which he considers the formative stage, is really the Late Phase (Period II B) of the Harappa culture, when the ceramic wares were of inferior quality. But Dikshit's presumption that the Rangpur culture as a whole represented a post-Harappa culture is not correct. Even though most of the common Harappa types are encountered in phase I of his excavation, he calls it a formative stage of a post-Harappa culture. He says: 'Rangpur pottery is not similar to Harappa pottery' and 'there is very little in common between the decorative patterns and types of Rangpur and Harappa.' A closer examination has proved otherwise.

Let us examine his statement in some detail. While comparing the Rangpur pottery with the Harappa, the ceramic wares of the earliest Harappan settlement noticed in the present cuttings RGP 3, RGP 4, and RGP 7 in the north-western part of the mound should be taken into account. The vessels are sturdy, well-baked and produce a ringing sound when struck. They are painted in black over red. The characteristic Harappa types found here are represented by the goblet, beaker, storage-jar, basin, perforated cylindrical vessel and dish-on-stand, which establish among other things the identity of the types from Rangpur with the Harappa types. Dikshit opines that the decoration on the vessels does not cover the entire vessel-surface and that naturalistic designs are lacking. This is partly true, but what should not be forgotten is that even at Harappa and Mohenjo-daro the majority of the vessels are unpainted, and among those painted the entire vessel-surface is covered in only a very few cases. Mackay observes that plain, undecorated pottery is more common at Mohenjo-daro than the painted ware. Speaking of painted pottery, Wheeler says: 'Unlike the Cemetery H pottery which is extensively and sometimes elaborately painted, the few painted specimens from R 37 (invariably in black paint) show a strong bias towards geometric and linear patterns, identical with those from the habitation-areas.'[1] As Dikshit did not come across the ceramic wares of the earlier phase of Harappan settlement, he could not possibly assess the full significance of the Harappan affinities of Rangpur. Besides Harappa ceramic forms, the painted Harappa motifs encountered at Rangpur are the leaf, fish-scale, honeycomb hatched diamond, etc. It should be remembered that the area excavated at Rangpur is extremely limited, and further excavation may bring to light more designs.

[1] R. E. M. Wheeler in *Ancient India*, no. 3 (1947), p. 101.

Dikshit has mentioned the absence of faïence and steatite beads and the disk and lenticular types in particular as indicative of the lack of Harappan affinity. In the present excavation several disk beads of gold and steatite, cylindrical beads of carnelian and faïence and lenticular beads of agate and shell have been recovered. Among the characteristic Harappan tools and weapons from Rangpur chert blades, stone sling-balls and copper celts should be mentioned. Terracotta triangular 'cakes' and agate weights conforming to the standard weights from the Indus valley are other Harappan objects from Rangpur.

An advantage the author had in excavating the north-western sector of the mound was that a purely Harappa settlement, as distinguished from the Late Harappa and post-Harappa settlements in other parts of the mound, was struck. This has helped in distinguishing the true Harappa culture from the degenerate Harappa culture of Period II B on the one hand and the evolved cultures of Periods II C and III on the other.

## C. Acknowledgements

It is at the suggestion of Shri A. Ghosh, Director General of Archaeology in India, that I undertook the excavation at Rangpur in 1953. I am greatly indebted to him for all the help and encouragement I received from him. I am obliged to Shri B. B. Lal, Deputy Director General, for certain useful suggestions made during my discussions with him.

I am also obliged to Dr. B. B. Lal, Archaeological Chemist in India, for his reports on the chemical analysis of metal objects and pottery specimens, to Shri Bhola Nath, Vertebrate Zoologist, Zoological Survey of India, for his report on animal-remains and to Shri S. S. Ghosh and Shri Krishna Lal of the Forest Research Institute for their report on the plant-remains.

My chief colleague in the field was Shri K. M. Srivastava, whose hard work went a long way in extending the operations over different parts of the mound. Shri S. N. Raghunath helped me in the field as well as in the classification of the pottery and writing of the report. Shri Suraj Bhan classified the pottery from Machiala-Mota. Shri N. C. Shah was my chief photographer, and most of the photographs illustrated in the report were produced by him. Shri M. B. Limaye, Shri Pramod Singh and Shri Bhagwat also did much useful work in the preparation of the plates. Sections, plans and pottery-drawings were prepared by Shri E. R. Sathe and Shri M. J. Vyas. Charts, maps and other important drawings of small objects were prepared by Shri Lalit Jain, Shri R. P. Khare, Shri A. K. Roy and Shri J. N. Gandhi. I must also mention here the help rendered by Shri V. M. Joseph, Shri H. N. Sajnani, Shri M. Singh and Shri B. P. Saxena in this connexion. Shri J. P. Joshi classified the Rangpur beads and microliths and pottery of the explored sites in the Tapti valley and also helped me in several other ways in getting the report ready. Shri K. S. Ramachandran and Shri S. R. Pahwa also helped me in the final stages. The late Shri P. P. Pandya, Archaeologist of Saurashtra State, who was deputed by the Saurashtra Government for training at Rangpur, did much useful work. My grateful thanks are due to all of them.

Several other scholars have kindly furnished valuable information about their excavations and explorations, mention of which has been made in the text. I am beholden to them.

## 2. EXCAVATION AT RANGPUR

### A. Aim and scope of the excavation

As stated above (p. 8), the main purpose of undertaking excavation at Rangpur for the fourth time in 1953-54 was to confirm or reject the suspected Harappan affinities of Rangpur. Even if it represented a post-Harappan culture as held by Dikshit, it was necessary to ascertain the origin, development and dispersal of that culture.

Secondly, its sequential relationship with the Harappa culture on the one hand and the chalcolithic cultures of the Deccan and central India on the other had to be determined.

Thirdly, the excavation by the author at Machiala-Mota (or Mota-Machiala) in Amreli District of Gujarat in 1953 had brought to light a Lustrous Red Ware analogous to the pottery of the late levels of Rangpur. Vaniavadar, another chalcolithic site near Amreli, was found to yield thick sturdy wares of red and buff colours bearing close resemblance to the pottery of the early levels of Rangpur. Hence, another object of the excavation was to ascertain whether the two ceramic traditions noticed individually at Machiala-Mota and Vaniavadar and together at Rangpur represented altogether two different cultural streams or two phases of a single integrated culture developing different ceramic traditions in different periods.

Fourthly, Dikshit had also noticed certain Harappan elements along with the non-Harappan in the Rangpur culture. But he emphasized the latter and dismissed the former as superficial. It, therefore, became necessary to separate the Harappan elements from the non-Harappan ones and find out which of them dominated in the early period and which in the later.

Fifthly, the occurrence of the buff ware along with the red ware at Rangpur needed explanation. Whether the Rangpur culture, which Dikshit termed as post-Harappan, was an infiltration into Kathiawar or had its origin in the peninsula itself was another problem to be solved.

Keeping in view the above-mentioned problems, excavation was started in December 1953 and was continued for two seasons. Though the area covered by the present excavation was more than the area together covered in all the previous excavations, the operation was essentially a vertical dig aimed at obtaining a cultural sequence of the site based on stratigraphy.

This must, in future, be followed by horizontal excavations in order to throw more light on the decadent phase of the Harappa culture and the Lustrous Red Ware culture and to know the plans of houses and streets and the method of the disposal of the dead.

### B. Summary of the results

The excavation at Rangpur has revealed three main cultures (fig. 3), viz. a pre-pottery microlithic culture, the Harappa culture and the post-Harappa Lustrous Red Ware culture, respectively assigned here to Periods I, II and III. There are three Sub-periods in Period II, viz. II A, II B and II C. Cultural deposits of Periods I and II A are encountered in RGP 3, RGP 4 and RGP 7 and those of Periods II B, II C and III in RGP 1, RGP 2 and RGP 5. A coarse gravel-bed (fig. 11; pl. XIV) is exposed in the river-cutting, wherein points, scrapers and blades in jasper are found (fig. 12, p. 51). The cores are small and the industry is essentially a flake-industry. Typologically they belong to the same group

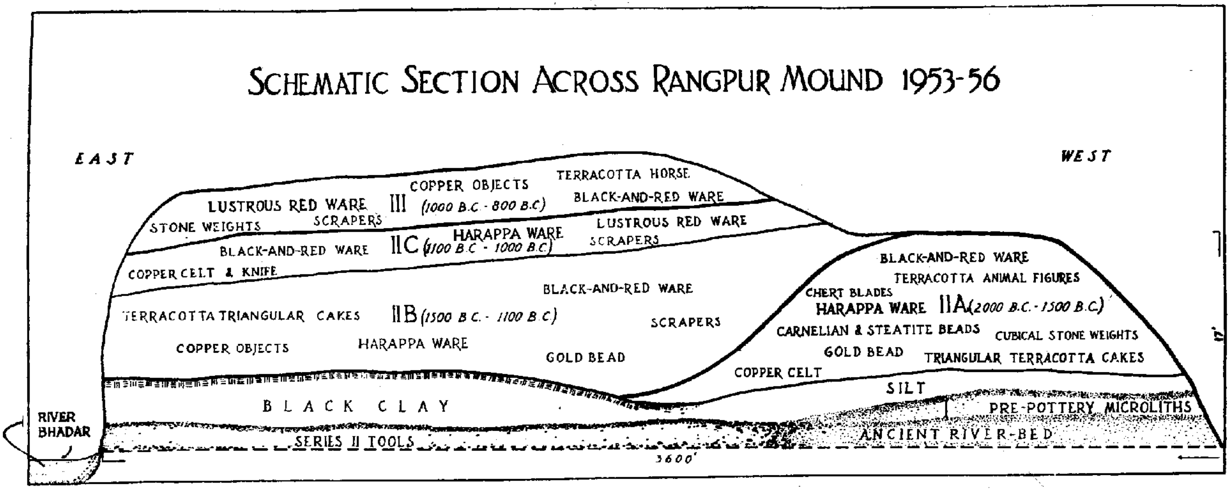

SCHEMATIC SECTION ACROSS RANGPUR MOUND 1953-56
EAST
WEST
TERRACOTTA HORSE
COPPER OBJECTS
LUSTROUS RED WARE
III (1000 B.C. - 800 B.C.)
BLACK-AND-RED WARE
STONE WEIGHTS
SCRAPERS
HARAPPA WARE
LUSTROUS RED WARE
BLACK-AND-RED WARE
IIC (1100 B.C. - 1000 B.C.)
SCRAPERS
COPPER CELT & KNIFE
BLACK-AND-RED WARE
TERRACOTTA ANIMAL FIGURES
BLACK-AND-RED WARE
CHERT BLADES
TERRACOTTA TRIANGULAR CAKES
IIB (1500 B.C. - 1100 B.C.)
HARAPPA WARE
IIA (2000 B.C. - 1500 B.C.)
SCRAPERS
CARNELIAN & STEATITE BEADS
CUBICAL STONE WEIGHTS
COPPER OBJECTS
HARAPPA WARE
GOLD BEAD
GOLD BEAD
TRIANGULAR TERRACOTTA CAKES
COPPER CELT
SILT
BLACK CLAY
PRE-POTTERY MICROLITHS
RIVER
BHADAR
SERIES II TOOLS
ANCIENT RIVER-BED
3600'
17'

FIG. 3

to which tools of the so-called Series II of Maheswar and Nevasa belong.[1] A similar flake-blade-scraper industry has been reported from the Khandivli upper gravel.[2] Both typologically and stratigraphically this industry belongs to the pre-microlithic phase. As the tools are not rolled, the industry must have been flourishing in the Rangpur area itself.

A gravel-bed comprising fine sand, encountered in the earliest levels of the cuttings RGP 3, RGP 4 and RGP 7 (figs. 8 and 10), indicates that the river Bhadar once washed the northern and western edges of the mound. Several microliths unassociated with pottery were recovered from the gravel-lens, which, in turn, is succeeded by a 3-ft. thick barren layer of silt separating the microlithic deposit from the Harappan one. The microlithic tools include the triangle, trapeze, blade, point and arrow-head, of jasper and agate.

The succeeding culture represents a late phase of the mature Harappa culture assignable to a date ranging from 2000 to 1500 B.C., when almost all the major ceramic types, tools, weapons and personal ornaments characteristic of the Harappa culture were in use. The perforated jar (fig. 19, *28*), dish-on-stand (fig. 23, *76*), dish with a projected rim (fig. 22, *67*), thick storage-jar with a heavy flat rim (fig. 20, *33*), small jar with a bulbous body (fig. 18, *15*) and jar-stand (fig. 23, *79*) are among the well-known Harappa types from Period II A. They are sturdy, well-fired and have a smooth exterior. The painting is executed in black over red as on Harappa vessels. Occasionally painting in chocolate over a buff surface can also be seen. The lesser-known types are the beaker and goblet. Another superior ware, with a micaceous red surface painted with a fine brush in black over red, is found in small quantities. The bowl with a handle (fig. 23, *92*) and small jar a with flaring rim (fig. 19, *23*) are common types in this ware. A sturdy ware, buff in colour and painted in chocolate over a buff or greenish buff background, is an additional element encountered at Rangpur. The jar (fig. 24, *94*) and dish (fig. 24, *98*) are common types in this ware. Besides these a coarse grey ware also occurs.

Cylindrical carnelian beads (fig. 52, *12*; pl. XXXIV A, *12*), lenticular agate beads (fig. 52, *1*; pl. XXXIV A, *1*), disk beads of steatite and gold (figs. 52 and 53, *10* and *28*; pl. XXXIII, *27* and *28*), parallel-sided blades of chert (fig. 13, *13*; pl. XVII B), cubical weights of agate (fig. 54, *5* and *6*; pl. XXXIV C), copper pins and celts (fig. 55, *5* and *6*; pl. XXXV A) and steatite ornaments (pl. XXXIV B) recovered from Period II A levels are reminiscent of the Harappa culture. From the foregoing details it should be clear that Rangpur was a true Harappan settlement.

The first Harappa settlement in the north-western sector of the mound was destroyed by a flood in *circa* 1500 B.C., whereupon the inhabitants shifted to the central and eastern parts. Koth and Lothal, two other prosperous townships in the Sabarmati valley, were also destroyed by a similar flood. The same fate seems to have befallen the cities in the Indus valley, forcing the inhabitants to move to more secure regions (below, p. 191).[3] The declining prosperity of the surviving Harappans at Rangpur in the post-flood days is indicated by the poorer material equipment encountered in the early levels of the cuttings RGP 1, RGP 2, RGP 5, RGP 6, and RGP 8 (pl. I), suggesting thereby a degeneration in the Harappa culture in Period II B.

The fabric of the ceramic wares of Period II B is found to be coarse. In some cases the surface of the vessels is not rendered smooth and the paintings are indifferent. But it must be noted that there is no major change in the forms of the vessels themselves except

[1] H. D. Sankalia and others, *The Excavations at Maheshwar and Navdatoli* (Poona, 1958), figs. T and U; H. D. Sankalia and others, *From History to Pre-history at Nevasa* (Poona, 1960), figs. 58-60.

[2] B. Subbarao, *Personality of India* (Baroda, 1958), p. 65 and fig. 16.

[3] Ernest J. H. Mackay, *Chanhu-daro Excavations 1935-36* (New Haven, 1943), p. 63.

in the convex-sided bowl. Certain types of vessels, such as the beaker and goblet, which were scarce in the preceding Period, were almost completely discarded. Only a couple of sherds of each type are found in Period II B levels. The small jar and basin became less popular, but the heavy-rimmed jar, dish-on-stand and bowl continued to be in demand.

The bowl with straight sides and a thick rim also came into use (fig. 29, *29*) in Period II B. Besides the poorer fabric of the earthenware as a whole and the discarding of certain types of vessels, there are other indications of the decline in the prosperity of the Harappans. The utter scarcity of steatite ornaments, cylindrical carnelian beads, cubical stone weights and chert flakes, all of which used to be imported in Period II A, shows that the inhabitants could not do so in Period II B. Owing to their adverse economic conditions the inhabitants could not also build comfortable houses: not even mud-bricks were used for building houses. No drains and baths were built. This decadent phase of the Harappa culture, lasting for about four hundred years after the destruction of the first township of the Harappan settlers at Rangpur, is represented by a deposit of 11 ft. in RGP 2.

At the end of the second millennium B.C. there were signs of the revival of certain earlier traditions and evolving of new ones in Period II C (below p. 23). The earthenware came to be painted more frequently and an attractive red lustre was produced on the surface by varnishing and applying a red slip, even though the fabric was coarse.

New shapes of vessels were slowly evolved from the earlier ones. The convex-sided bowl of Period II A, which had developed a slightly thick rim and straight sides in Period II B (fig. 16, *11*), came to have an everted rim and blunt carination at the shoulder in Period II C (fig. 16, *13*), finally assuming a deep-carinated shoulder in Period III (fig. 16, *16*). The dish with an expanded rim (fig. 16, *18*) developed a beaded rim, and its carination disappeared in due course (fig. 16, *20*). The small jar with a slightly raised neck, which used to be slipped with a fine red or buff slip and painted with horizontal bands (fig. 16, *1*) in Period II A, became coarser in fabric in II B and its neck was further raised (fig. 16, *4*) in II C. The perforated cylindrical jar was totally dropped. Terracotta triangular 'cakes' ceased to be in use. The vessels came to be burnished to obtain a bright-red surface. Mostly geometric and linear designs, such as bands, loops and hatched triangles, diamonds and rectangles (fig. 33; pl. XXIII A) were painted. A few geometric and naturalistic motifs, such as loops with fronds, tendrils, fish-nets and leaves, can be seen. The row of birds, bulls with 'x'-shaped horns and running deer (pl.XXIII B) were painted on bowls, etc. Newly-evolved ceramic types were noticed in inferior as well as superior fabric. The earlier forms, such as the bowl with a handle, dish-on-stand and storage-jar with a flat rim, are also found in small numbers (figs. 33 and 34).

Somehow, terracotta animal-figurines became popular. Small biconical beads of agate and terracotta replaced the faïence beads of the earlier phase. The lithic equipment consisted of small flakes of jasper worked into scrapers. These changes were the result of a deliberate effort on the part of the inhabitants to improve their lot during Period II C. The first signs of the changes are faintly visible in the late levels of Period II B but are more pronounced in Period II C. Thus, by 1000 B.C. the ceramic traditions of the Harappans were handed down in a modified form by the Harappans to their successors in two stages, the earlier of which is noted for a general degeneration in the fabric of the ceramic wares and the later one for the evolution of new forms. The gradual evolution of the Lustrous Red Ware culture from the Harappa culture is the second major contribution made by the excavation at Rangpur. It has also helped to distinguish the one form the other and has underlined the survival of the Harappa culture with a poor material equipment in a relatively-isolated region like Kathiawar for about five centuries even after its disappearance from the Indus valley itself.

Sub-periods II A, II B and II C are considered to be separate Phases of the Harappa culture, as the bulk of the equipment of all the three Phases has close affinity with that of the Harappa culture. What at first sight appears to be an intrusion of a new culture in Sub-period II C is essentially derived from the same culture. The Harappan element still dominated the scene. Some new elements may possibly be due to the contact Rangpur folk had with other chalcolithic folk.

The pottery of Period III was generally of low grade, as the clay used was not finely levigated. The surface was treated with a deep-red slip rubbed into the fabric of the vessels when leather-hard, in order to obtain a shining-red colour. This distinctive fabric is called here the Lustrous Red Ware. It came into use in small quantities in Sub-period II C and became the most popular ware of Period III. Generally, the size of the vessels came to be small and the walls thin. Horizontal bands, vertical strokes, eyelashes, hatched but elongated diamonds, intersecting loops, fronds and honeycomb were painted in black over deep-red. The painted animal-figures include the bull, running deer, row of birds, etc. So far as the ceramic types are concerned, the dish lost its carination and had a beaded rim (fig. 38, *34*). and the carinated bowl had a stand (fig. 45, *140*). The bowl of medium size with a short but thick stem indicated an intermediate stage in the evolution of the stemmed bowl. It is interesting to note that bowls-on-stand found in Cemetery R 37 of Harappa and the cemetery at Rupar appear to be distantly connected with the stemmed bowls from Navdatoli. The bowl with a thin wall and an everted rim (fig. 38, *30a*) was found along with the carinated bowl with a ring-footed base (fig. 38, *28*). The cup and bowl were painted in black over red or pink. The high-necked jar in a slipless coarse red fabric (fig. 39, *70*) became a common type and was found occasionally in sturdy ware in Sub-period II C. The large storage-jar in coarse red ware (fig. 39, *61*) and coarse grey ware (fig. 45, *128*) developed a heavy beaded or beaked rim. The coarse grey ware was occasionally burnished and decorated with incised wavy lines, vertical strokes, etc. Period III thus represents the exuberance of the Lustrous Red Ware culture and is easily distinguishable from the Harappa culture. The technique of inverted firing was known and a few sherds of the black-and-red ware are found in Sub-periods II A and II B. In Periods II C and III vessels were frequently fired in this technique. The black-and-red ware emerged as a popular ware in the second millennium B. C. in central India and the Deccan. There is hardly any difference between the black-and-red ware and the Lustrous Red Ware vessels of Rangpur in form or treatment of the surface, except in the technique of firing; the former is decorated with painting on the interior in white linear designs and the latter in black over red on the exterior.

The penetration of the Harappa culture into the Kathiawar peninsula, its survival up to the end of the second millennium B.C. in a decadent form, subsequently transforming itself into the Lustrous Red Ware culture, and the establishment of a continuous cultural sequence from 2000 to 800 B.C. are important contributions made by the excavation at Rangpur. Incidentally the occurrence of a microlithic industry in pre-Harappan levels has fixed the lower limit of the industry as at least pre-Harappan. The relationship of Middle Stone Age tools with the microlithic industry is yet to be established. The excavation at Lothal, where Indus seals and pottery identical with that of Rangpur II A are found, has confirmed that Rangpur was also a Harappan settlement. The evidence from the late Harappan levels at Lothal confirms the evolution of the Harappa culture noticed for the first time at Rangpur.

The wide dispersal of the Harappa culture all over Gujarat has been brought to light by the discovery of nearly forty Harappan and late Harappan sites in the course of a village-to-village survey of the region undertaken during the years 1953 to 1958. The

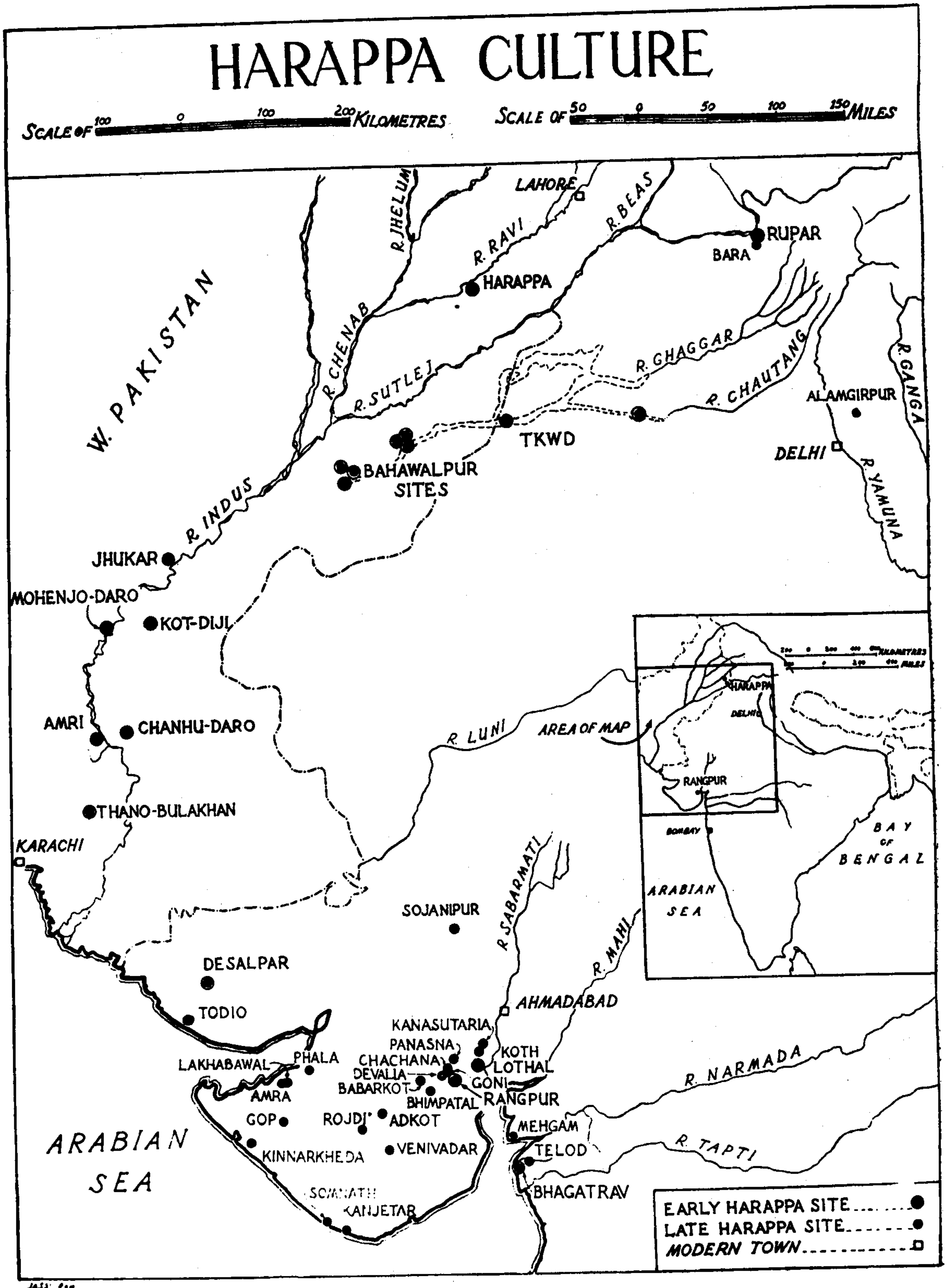

HARAPPA CULTURE
SCALE OF 100 0 100 200 KILOMETRES
SCALE OF 50 0 50 100 150 MILES
W. PAKISTAN
R. JHELUM
R. RAVI
R. BEAS
LAHORE
RUPAR
BARA
HARAPPA
R. CHENAB
R. SUTLEJ
R. GHAGGAR
R. CHAUTANG
R. GANGA
ALAMGIRPUR
DELHI
R. YAMUNA
TKWD
BAHAWALPUR SITES
R. INDUS
JHUKAR
MOHENJO-DARO
KOT-DIJI
AMRI
CHANHU-DARO
THANO-BULAKHAN
KARACHI
R. LUNI
AREA OF MAP
HARAPPA
DELHI
RANGPUR
BOMBAY
BAY OF BENGAL
ARABIAN SEA
SOJANIPUR
R. SABARMATI
R. MAHI
DESALPAR
TODIO
AHMADABAD
KANASUTARIA
PANASNA
KOTH
LOTHAL
CHACHANA
PHALA
LAKHABAWAL
DEVALIA
BABARKOT
GONI
BHIMPATAL
RANGPUR
AMRA
GOP
ROJDI
ADKOT
MEHGAM
R. NARMADA
R. TAPTI
ARABIAN SEA
KINNARKHEDA
VENIVADAR
TELOD
BHAGATRAV
KANJETAR
EARLY HARAPPA SITE
LATE HARAPPA SITE
MODERN TOWN

FIG. 4

results of the exploration and the reasons for suggesting that a maritime route was taken by the Harappans during their southward march from Sind to Gujarat are narrated at the relevant place elsewhere (below, p. 175). It may be noted for the present that the earliest settlement of the Harappans in Gujarat was at Lothal, and when a large part of the town was washed away by an intense flood in *circa* 2000 B.C., some of the inhabitants seem to have left Lothal and settled down at Rangpur. Bhagatrav near Surat and Desalpur in Kutch (fig. 4) are two other settlements representing a late phase of the mature Harappa culture. Subsequent floods of greater magnitude in *circa* 1500 B.C. all over Gujarat destroyed all the Harappan settlements including Rangpur, Lothal, Desalpur, etc. Some of them were abandoned and others re-occupied. The inhabitants of Rangpur shifted their habitation to the central part of the mound. The bulk of the Lothal population settled elsewhere and only some returned to Lothal and resettled themselves. Among several small settlements that sprang up around Rangpur as a result of the influx of refugees, mention may be made of Kaerio, Todio and Chachana. Some people moved further interior and made settlements at Pansina, Akru, Rojdi, Alau, etc. (fig. 4). Apparently the destruction of Harappa, Mohenjo-daro and possibly Chanhu-daro under similar circumstances resulted in a large-scale migration of the population from the low-lying regions of the Indus valley to the higher regions. The people living in the Indus estuary moved down to the most proximate and safer regions, viz., Gujarat, with which they had trade-contacts. The small low-lying mounds at Amra, Lakhabawal, Phala, Hadiana, Wasai, etc., around Jamnagar, Kindarkhera near Porbandar, Prabhas near Somnath, Kanjetar near Mul-Dwarka, Todio in Kutch and Mehgam and Telod near Broach (fig. 4) are among such temporary coastal settlements of the Harappa refugees. With the influx of refugees the limited area of cultivable land along the coastline could not sustain a large population, and in course of time it became necessary for the fugitives to move to the mainland. Apparently this mass movement from the Kathiawar peninsula towards central India and the Deccan took place in the latter half of the second millennium B.C. through north Gujarat, where two important post-Harappan sites have been located. Both are noted for the Lustrous Red Ware and the black-and-red ware vessels. One of them, Kanasutaria, 20 miles south-west of Ahmadabad, is found to be a settlement made by the Harappans in the Transition Phase of their culture. The second is Sujnipur, 100 miles north-east of Ahmadabad, on the bank of the Saraswati river near Patan in Mehsana District (fig. 4). Further changes that took place in ceramic forms are noticeable here. Kanasutaria and Sujnipur point out the direction in which the degenerate Harappa culture moved. The chalcolithic folk of Maheswar and Navdatoli on the Narmada river[1] and Ahar near Udaipur came in contact with the folk using the Lustrous Red Ware and probably earlier too as indicated by the black-red-and ware. The new links between the late and post-Harappan cultures of Gujarat and the central Indian chalcolithic cultures explain some of the Harappan traditions surviving in later chalcolithic cultures.

## C. Cultural equipment of the Periods

The three main cultures of Rangpur (fig. 3) are the microlithic (Late Stone Age) culture, the Harappa culture and the Lustrous Red Ware culture, which are distinguished as such by the material equipment of each Period. There are three Sub-periods in the

[1] Sankalia, *op. cit.* (1958), p. 247.

Harappa culture. A pre-microlithic horizon in which Middle Stone Age tools are found in the river-section is also noted. The sequence as noticed in the excavation is as follows:

PERIOD I—Microlithic culture—microliths unassociated with pottery.

PERIOD II A—Harappa culture—Harappa Wares and other characteristic Harappan objects.

PERIOD II B—Late Harappa culture—degenerate Harappa Ware.

PERIOD II C—Transition Phase of Harappa culture—evolved Harappan ceramic forms; origin of the Lustrous Red Ware.

PERIOD III—Lustrous Red Ware culture—Lustrous Red Ware and black-and-red ware.

### (i) *Period I*

The first human settlement at Rangpur is noticed on the north-western slope of the mound where once the Bhadar river used to flow. In the earliest levels of the cuttings RGP 3, RGP 4 and RGP 7 a gravel-bed composed of fine sand yielded Late Stone Age microliths with geometric forms. They comprise triangles, points, arrow-heads, borers and scrapers of jasper and agate (figs. 13 and 14; pl. XVI). As hardly any of them was rolled, the tools could not have been carried by the river from elsewhere. There must have been a local settlement of microlith-using people. The date of this microlithic industry unassociated with pottery cannot be stated with any certainty. Tentatively, it is assigned to 3000 B.C. in view of the fact that in RGP 4 and RGP 7 there was a 3-ft. thick barren layer of silt separating the microlithic layer from the Harappa deposit.

### (ii) *Period II A*

Culturally, Period II has nothing to do with Period I. The former is a chalcolithic, and more precisely a Harappan, settlement, the earliest traces of which were found in the north-western parts of the mound. Four structural phases in the Harappa period were encountered in each of the cuttings RGP 3 and RGP 4 and three in RGP 7. Houses were found built on solid platforms of mud-bricks against inundation as at Lothal. The floors were paved with mud-bricks and drains of kiln-burnt bricks were attached to the baths (pl. VIII). One of the houses had, however, its floor made up of lime and hemp (fig. 8). Besides private drains a 3-ft. deep public drain meant for carrying sullage-water was laid bare in RGP 3. It is, therefore, evident that the construction of houses, drains and platforms at Rangpur is similar to that at Lothal and the Indus sites.

The main ceramic industries of Rangpur in the Harappa period were the red ware, the buff ware, the coarse red ware and the coarse grey ware. The other minor ceramic wares noticed were the black-and-red ware and the micaceous red ware. Generally, the red and buff ware vessels are thick and sturdy and do not break easily. They were well-fired and fusion was complete. In most cases they were treated with a red or buff slip which completely covered the surface and striation-marks without leaving any patch. Painting was executed in black over red or chocolate over buff. Geometric designs such as hatched diamonds, loops and horizontal bands (fig. 26, *A24*, *A26* and *A30*) were preferred to naturalistic motifs such as fish-net (fig. 26, *A27*), fish-scale (fig. 26, *A19*) and plant (fig. 26, *A18*). The painting was normally confined to the upper half of the vessel-surface, but in a few instances the entire vessel-surface was also painted with simple bands, and the use

of more than one colour for the slip was not infrequent (pl. XVIII A, *1* and *2*). A fine red ware treated with a thick micaceous red slip and painted with a fine brush in deep-black over deep-red deserves special mention. Horizontal bands, hatched diamonds, zigzag lines and oblique strokes were carefully painted over the vessels. The only types noticed in this fine red ware were the small bulbous jar with a flaring rim (fig. 19, *23*), convex-sided bowl (fig. 21, *55*) and bowl with or without a stud-handle (fig. 23, *92*). The micaceous red bowl with a stud-handle is confined to Gujarat and can be considered a ' type-fossil ' of Harappa settlements in this region.

The dish-on-stand with a projected rim and carinated shoulder (fig. 23, *76*), the thick storage-jar with a slightly-convex profile and flat rim (fig. 20, *35*), the cylindrical perforated jar (fig. 19, *28*), the 'S'-shaped vessel with provision for receiving the lid (fig. 24, *96a*), the jar with a small neck, bulbous body and flat base (fig, 18, *15*), the goblet, (fig. 23, *83b*) the beaker (fig. 23, *81* and *82*) and the jar-stand (fig. 23, *79*) were the main types in red and buff wares which are identical with those from Harappa and Mohenjo-daro.

Normally only one colour was used for painting over a red or buff background, and rarely two colours were noticed. The difference in the colour of the slips used on the lower and upper halves of the vessels was emphasized by a horizontal band in deep-red or chocolate (pl. XVIII A, 4) at the junction of the two slips, which were often thin.

A coarse grey ware persisted throughout the Harappa and post-Harappa periods. The common type in it was the thick jar with an outstretched or flaring rim and flanged shoulder (fig. 25, *116*). Some vessels had corrugated shoulders (fig. 25, *118*). They were slightly burnished in the upper one-third and rarely decorated with incised designs. A highly-burnished dish with an expanded rim in superior grey fabric (fig. 25, *119*) was an important type. Such dishes were found at Lothal and the Indus cities.

The maturity of the Harappa culture at Rangpur in Period II A can be judged from the large variety of ceramic ware, personal ornaments, objects of domestic use and tools and weapons found here. Disk beads of steatite (fig. 52, *34*) and gold (fig. 52, *28*), lenticular beads of agate (fig. 51, *1*; pl. XXXIV A, *1*) and cylindrical beads of steatite, carnelian and faïence (pls. XXXIII and XXXIV A) are analogous to the beads from Mohenjo-daro, Harappa and Lothal. A miniature jar with four thousand and nine hundred tubular micro-beads of steatite was found in the early levels of Period II A in RGP 4. Copper bangles and rings (pl. XXXV B), shell bangles (pl. XXXVII A) and a steatite ornament of floral design (pl. XXXIV B) were some of the typical Harappan ornaments found in Period II A. The occurrence of cubical agate weights at Rangpur (fig. 53; pl. XXXIV C) and Lothal suggested that a uniform system of weights was in vogue in Gujarat and the Indus valley. Copper celts and pins (fig. 54; pl. XXXV A) were some of the tools used by the Rangpur folk. Almost a dead uniformity of ceramic types, tools, weapons and personal ornaments is said to have persisted for a long time in the Indus valley and Kathiawar. But the uniformity is made much of. In the last days of Lothal A and in Rangpur II A some changes in the fashion of the people were already noticeable as at Mohenjo-daro[1]. It should be remembered that even though costly ornaments of gold, and steatite which had to be imported were in considerable use, the less costly ones became scarce in Rangpur II A. Goblets and beakers were fewer in number in the last days of II A. Roughly, five centuries might have been necessary for the above-mentioned changes to take place in the fashions of the otherwise conservative Harappans (below, p. 25). If we presume that the first occupation of Lothal took place in 2500 B.C. and that a flood at Lothal forced the people to move to Rangpur, as there is sufficient

[1]Mortimer Wheeler, *The Indus Civilization* (Cambridge, 1960), p. 76.

reason to believe, the first Harappan occupation of Rangpur should have taken place in 2000 B.C. and ended in 1500 B.C.

The Rangpur folk had no local industry except pottery-making to their credit in Period II A. Most of their tools, weapons and ornaments were imported from elsewhere. On the other hand, their contemporaries at Lothal could make beads, terracotta sling-balls, seals and seealings. However, the brickwork of both the places was greatly advanced. Each house had a drain and the floor was paved with bricks. The dwellings were raised on solid platforms of mud-bricks to keep them above the normal flood-level. Public drains were built for carrying sullage-water.

No object of definite cult-value has come to notice at Rangpur, but the excavation at Lothal suggests that the Harappans were fire-worshippers. No seal or sealing was recovered from Rangpur. The use of seals was apparently restricted to commercial centres such as Harappa, Mohenjo-daro, Chanhu-daro and Lothal. An inscribed lid from Period II A (pl. XXIX A) and the graffito-marks on potsherds from different phases of the Harappa culture at Rangpur (pls. XXVI-XXVIII) suggest a continuous use of at least some of the Indus symbols in a modified form (figs. 47-49).

As already stated (above, p. 15), the destruction of the earliest Harappan settlement at Rangpur was not due to any human agency but to a natural calamity, viz. flood in the river Bhadar. Flood-borne deposits can be seen in all the three cuttings in the north-western parts of the mound. Potsherds lying on edges, silt and brick-bats carried from houses destroyed by flood are found in Phase IV of Period II A (pl. X A). The normal life of the people was upset and the influx of the refugees from the lower reaches of the Indus and Sabarmati rivers must have added to their difficulties.

### (iii) *Period II B*

The decline in the prosperity of the surviving Harappans at Rangpur is apparent from their poor material equipment recovered from the early occupation-levels in the central and eastern sectors of the mound which they occupied in the post-flood days. The cutting RGP 2 was the most dependable for purposes of stratigraphy as it was undisturbed in any way. The other cuttings such as RGP 5, though disturbed, were important for the study of painted designs and evolution of ceramic forms of Periods II C and III. The striking feature of Period II B was the indifferent treatment of the surface of the vessels and the coarseness of fabric (fig. 29, *29a, 31* and *34*). The meticulous care and creative genius formerly exhibited by the potter while painting vessels were lacking in Period II B.

The red ware was found in large quantity, but the use of the buff ware was limited. Painting was executed in black over red, and chocolate over buff as before, though carelessly. Occasionally the use of an additional pinkish colour produced a bichrome effect (pl. XVIII A, 2). The micaceous red ware was in very limited use. The main types in it were the small jar with a flaring rim and convex-sided bowl. Generally speaking, the sturdy fabrics of Sub-period II A, viz. the red and buff wares, were found to be coarser in Period II B. The slip was thin and did not cover the surface completely with the result that the striations are seen. This does not, however, mean that vessels with a fine smooth surface and paintings carefully executed on them were totally lacking. A few vessels were no doubt sturdy and well-painted. The bulk of the pottery was not painted with any intricate pattern. The peacock was the only important animal-motif noticed.

While considering the ceramic forms, the extremely limited use of the goblet, beaker and perforated jar is to be noted. Jars of various sizes were numerous.

The thickness of occupation-deposit of Period II B is as much as 12 ft., but no structures were noticed. Evidences of floor were, however, found in RGP 2. Probably houses of mud walls have been washed away. Drains and baths are conspicuous by their absence. Post-holes suggest that houses had thatched roofs. About four centuries might have been necessary for the accumulation of a cultural deposit of 12 ft. The degenerate Harappa culture may, therefore, be assumed to have survived down to 1100 B.C. The available Carbon-14 date for Navdatoli provides the necessary cross-reference (below, pp. 25-26).

### (iv) *Period II C*

After a period of lull in the activities of the Harappans in Sub-period II B a vigorous attempt was made by the people to revive earlier painting-traditions and to equip themselves with better amenities, tools and weapons by exploiting the locally-available material. The evolution of new ceramic forms from those of the earlier ones, preference for simple linear motifs over the sophisticated ones and the burnishing of the surface of the vessels after applying a thick red slip to obtain a lustrous red colour are the most remarkable features. It must, however, be noted that there is no radical departure from the Harappan tradition in so far as the colour-scheme of the painting is concerned. Even paring of vessels is a Harappan technique which continued to be widely used in Sub-period II C, when Harappan and evolved types were coeval. There was no radical change in the metal tool-types or personal ornaments except what was warranted by the use of the local material. Hence there was no intrusion of any new culture this Sub-period. It is only the resurgence of the Harappa culture in a new garb that we notice here.

A few changes in ceramic forms may, however, be noted here. The convex-sided bowl with a featureless rim developed a blunt carination at the shoulder and was painted in deep-black over a deep-red surface (fig. 33, *11*). Some bowls developed a sharp-carinated shoulder (fig. 33, *15*). The projecting rim of the dish was slightly beaded and the the carination at the shoulder disappeared gradually (fig. 33, *17*). The raised neck of the thin bulbous jar was further raised and the body was elongated. The evolved types were found in superior as well as coarse fabric (fig. 33, *1* and *3*); the painting was confined to the upper register. The stem of the dish-on-stand became short, thin, cylindrical, and the dish on it also small but deep (fig. 34, *34*), developing into a shallow bowl with a solid stem (fig. 38, *44* and *45*) in Period III. The stud-handled bowl became rare and the few that were encountered were larger in size with longer handle (fig. 34, *45*) than in Sub-period II B. The conspicuous absence of the perforated jar, goblet, beaker, jar with micaceous red slip and terracotta triangular ' cake ' is the culmination of a process of gradual replacement of certain old forms by the newly-evolved ones. It may also indicate a change in food-habits and social customs. The vessels were of medium size and burnished with a red slip. The Harappa ceramic types such as the dish-on-stand, dish, bowl and heavy-rimmed jar were still in considerable use.

So far as painting is concerned, hatched diamonds (fig. 33, *15*), oblique lines in groups and suspended intersecting loops (fig. 33, *13*), hatched circles and loops (fig. 36, *C12*) were preferred to the more complicated ones. In this connexion, it may be noted that intersecting circles with derived leaf-patterns (fig. 36, *C12*), hatched rectangles (fig. 36, *C6*) and curvilinear designs with fronds (fig. 36, *C9*) are found painted on the vessels from the mature Harappa culture in the Indus valley and at Lothal. The division of the vessel-surface into compartments for purposes of painting noticed in Sub-period II B became more pronounced in Sub-period II C (fig. 33, *11*). The most popular naturalistic motif of this Period was the running antelope (fig. 34, *51* and *53*; pl. XXII B)

Among other painted animal-figures is the bull with 'x'-shaped horns (fig. 34, *49*; pl. XXII B). Some kind of vague evolution in the pictographs is also discernible (figs. 47-49) in the graffito-marks which included Indus signs. The inhabitants also explored new sources of raw material for equipping themselves better with tools and ornaments in Sub-period II C than had been possible in Sub-period II B. They prepared biconical beads of agate and terracotta exactly on the model of the faïence beads of Sub-period II A. Jasper replaced chert in making lithic tools. Copper celts continued to be in use. Two clay enclosures were noticed in RGP 2 (fig. 6; pl. VI A) and four in RGP 6. Similar encolsures noticed in several houses at Lothal were used for fire-worship.

The full picture of the architectural achievement of the Rangpur folk in Sub-period II C is not available because of the limited operations and, more so, because the mud-bricks used in the construction of the dwellings have distintegrated into a mass of clay. The use of timber is noticed once again in this Sub-period. The rooms were fairly large, indicating an improvement in the economic condition. The post-holes suggest that their roof was made of thatch.

A virile culture such as the one which the Harappans had developed would not lie low for a long time. The very vitality of the culture enabled the Harappans to adjust themselves to new circumstances. But owing to isolation they developed new traditions in different regions such as the Gangetic valley, north Panjab and Gujarat, depending, to a large extent, on the local environment, availability of raw material for different industries, opportunities for trade, fertility of the soil and means of communications. The small temporary village-settlements of Sub-periods II B and II C in Gujarat were developed into larger villages in Period III, as will be presently seen.

### (v) *Period III*

The Lustrous Red Ware emerged as the chief ceramic ware of Period III. Further evolution in form took place in the case of the bowl, dish and jar. During the Period the majority of vessels had thin walls and were small in size. The clay used for making them had impurities resulting in a gritty and smoky core, but a smooth and burnished red surface was produced by the application of a red slip. Painting in deep-black over dark-red was more frequent and was usually confined to the upper half of the vessels. Ladders, chevrons, intersecting and suspended loops, hatched diamonds, triangles and rectangles, fronds and oblique and wavy lines were preferred to plant and other motifs. New forms were derived from the Harappa types as can be made out from the undermentioned details. The convex-sided bowl with asharp or featureless rim of Sub-period II A (fig. 16, *9*), which developed a blunt-carinated shoulder and a slightly-everted rim in Sub-period II C (fig. 16, *13*), became sharp-carinated at the shoulder with a concavo-convex profile (fig. 16, *15*) in Sub-period III. Some of them had a ring-footed base (fig. 16, *17*). The dish-on-stand of Sub-period II A, which had a projected rim and carinated shoulder (fig. 23, *76*), became non-carinated and the rim of its dish-part was shortened (fig. 17, *27*). Sometimes it became smaller in size but deeper and its stem thin and short, ultimately taking the shape of a short-stemmed bowl (fig. 17, *28* and *29*) in Period III. A similar evolution from the dish-on-stand to the bowl-on-stand can be traced from Ahar II to Navdatoli. The cemetery at Rupar and Cemetery R 37 of Harappa have yielded similar bowls-on-stand. A third type which underwent similar changes was the large dish with a projecting rim and carinated shoulder of Sub-period II A (fig. 16, *18*). The dish of Sub-period II C was non-carinated and the rim rounded slightly (fig. 16, *20*). It developed a fully-beaded rim in Period III (fig. 17, *23*). The dish

goblets, beakers and terracotta bangles were going out of use, indicating thereby a change in fashions. In an otherwise highly conservative society as the Harappan was, it takes a long time for such changes in fashion to take place. It has been observed before (p. 19) that the third flood of Lothal, dated 2000 B.C., must have forced some of the inhabitants to go to Rangpur. It is, therefore, highly probable that the first Harappan settlement at Rangpur in Sub-period II A took place in 2000 B.C. With this datum-line an attempt has been made here to fix the upper and lower limits of the Harappa and evolved cultures.

Sub-period II A is represented by a total habitation-débris of 10 ft. in RGP 3, RGP 4 and RGP 7 with four structural phases. It would be reasonable to assume that five centuries would be necessary for a 10-ft. débris of undisturbed occupation to accumulate. Rangpur II A seem to have come to an end in *circa* 1500 B.C. owing to devastation caused by a great flood of long duration in the rivers, as is evident from the occupation-débris of the mature Harappa culture sealed by flood-borne débris.

A gradual degeneration of the Harappa culture as a whole is noticed in Sub-period II B and Lothal B. In the former case the occupation-débris varies from 10 to 11 ft. in RGP 2 (layers 17 to 36) and RGP 5. An 11-ft. thick cultural débris could not have accumulated in less than four hundred years. Hence Sub-period II B is dated to 1500 to 1100 B.C. The occupation-débris of Sub-period II C is 3 ft. thick in RGP 2 and 4 to 5 ft. in RGP 1 and RGP 5, where the high-necked jar and blunt-carinated bowl in Lustrous Red Ware and coarse red ware are met with for the first time. The evolution of new ceramic forms and technique of treatment must have taken at least a century as indicated by the cultural débris of 3 ft. in RGP 2. Only one structural phase is noticed in RGP 2 and RGP 5 each. It would, therefore, be reasonable to assume that Sub-period II C lasted from 1100 to 1000 B.C., if not slightly longer. A cultural deposit of 5 to 6 ft. in RGP 2 represents the Lustrous Red Ware culture, which lasted for two hundred years, say, from 1000 to 800 B.C. This ends the story of the survival and evolution of the Harappa culture at Rangpur. The date suggested for Sub-period II A is partly borne out by the Carbon-14 date of Lothal A, and those of Rangpur II B, II C and III can be checked up with reference to the Carbon-14 dates of Navdatoli.[1]

The dish with a small carinated ledge is noticed in Navdatoli III A to III B and Rangpur II B. The basin with straight sides and beaded rim, the long-necked jar and the corrugated stem of the dish-on-stand are all common to Navdatoli III A and B and Rangpur II C and III.[2] Apparently, the evolved Harappan ceramic forms of Rangpur II C reached Navdatoli in Period III B. A little earlier, some degenerate wares similar to those of Rangpur II B are noticeable in Navdatoli III A. The date arrived at by Carbon-14 method for all the phases of the chalcolithic period of Navdatoli is 1500-1200 B.C. The ceramic evidence from Rangpur and Navdatoli suggests that Sub-periods II B and II C of Rangpur may be equated with the middle and late phases of the chalcolithic period of Navdatoli.

There is no cultural or generic affinity between the microlithic culture and the Harappa culture, which are stratigraphically separated by an intervening deposit of silt (fig. 8; pl. XII A). All that we know about the microlithic culture of Rangpur is that it is pre-Harappan. This itself is an important contribution to our knowledge, but to guess a date is risky. However, provisionally the microlithic culture may be said to have flourished in 3000 B.C.

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[1] Sankalia, *op. cit.* (1960), p. 68.
[2] Sankalia, *op. cit.* (1958), p. 247.

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[1] Sankalia, *op. cit.* (1960), p. 68.
[2] Sankalia, *op. cit.* (1958), p. 247.

To summarize, the following dates are assigned to the various cultural Periods of Rangpur:

Rangpur I (microlithic culture): 3000 B.C.;
Rangpur II A (Harappa culture): 2000-1500 B.C.;
Rangpur II B (Late or degenerate Harappa culture): 1500-1100 B.C.;
Rangpur II C (Transition Phase of the Harappa culture): 1100-1000 B.C.; and
Rangpur III (Lustrous Red Ware culture): 1000-800 B.C.

## E. The cuttings

A major part of the ancient mound at Rangpur is flat with two terraces, the one on which the village is situated being higher than the other. Two cuttings, viz. RGP 1 and RGP 2, the former to the east and the latter to the south of the cart-track from Dhandhuka, were made during the present excavation in order to obtain the maximum cultural deposit and to be as close as possible to the cuttings made by Vats and Dikshit for purposes of correlation. The strata in RGP 1 were much disturbed, but a well-stratified occupation-deposit was encountered in RGP 2, which is most reliable for purposes of stratigraphy and cultural sequence. Starting from surface, successive deposits of the post-Harappan Lustrous Red Ware culture, the Transition Phase of the Harappa culture and a degenerate phase of the Harappa culture were encountered one after another. Three trenches, viz. RGP 3, RGP 4 and RGP 7, were laid on the north-western corner of the mound, and the results were most remarkable. Several drains, platforms and houses belonging to the mature Harappa culture were laid bare and important portable finds, such as copper celts, chert blades, stone beads and weights and painted pottery characteristic of the Harappa culture, were also recovered. The trenches RGP 5 and RGP 6 in the south-western and western sectors were found to be disturbed in the early levels and could not, therefore, be very much relied upon for purposes of establishing any cultural sequence. However, the large quantity of painted pottery of the Transition Phase of the Harappa culture (Period II C) obtained from the intermediary levels has helped to understand the revival of the earlier traditions of painting.

Finally, two small trial-pits, RGP 8 and RGP 9, were sunk in 1956 to ascertain the stratigraphical position of the black soil *vis-a-vis* the Late Harappan deposits.

The cuttings RGP 2, RGP 3, RGP 4 and RGP 7, with undisturbed deposits, which are reliable for establishing a sequence of cultures, will be described fully. A summary of the stratigraphical evidence from RGP 1, RGP 5, RGP 6 and RGP 8 is also given here.

### (i) *RGP 1*

Cutting RGP 1 was oriented north-west to south-east. In the course of the excavation down to a maximum depth of 22 ft., several pits and disturbed layers of occupation were noticed. Natural soil was reached in a small portion of the trench. Ash, bones and pottery of the post-Harappan phase and a mixed deposit of early and late phases were found in considerable quantities. The Lustrous Red Ware vessels and microliths found in Period III levels are important for purposes of comparative study. Among other finds mention may be made of the bowl in the black-and-red ware with a beaded rim found in layer 3. Most of the layers underlying a 8-ft. thick deposit of the Lustrous Red Ware culture of Period III were dipping in different directions and large pits were also noticed. The mixed deposits in the pits and disturbed layers are not dependable for any ceramic sequence. The trench measured $21 \times 15$ ft.

### (ii) *RGP 2* (figs. 5 and 6; pls. IV B-VII A)

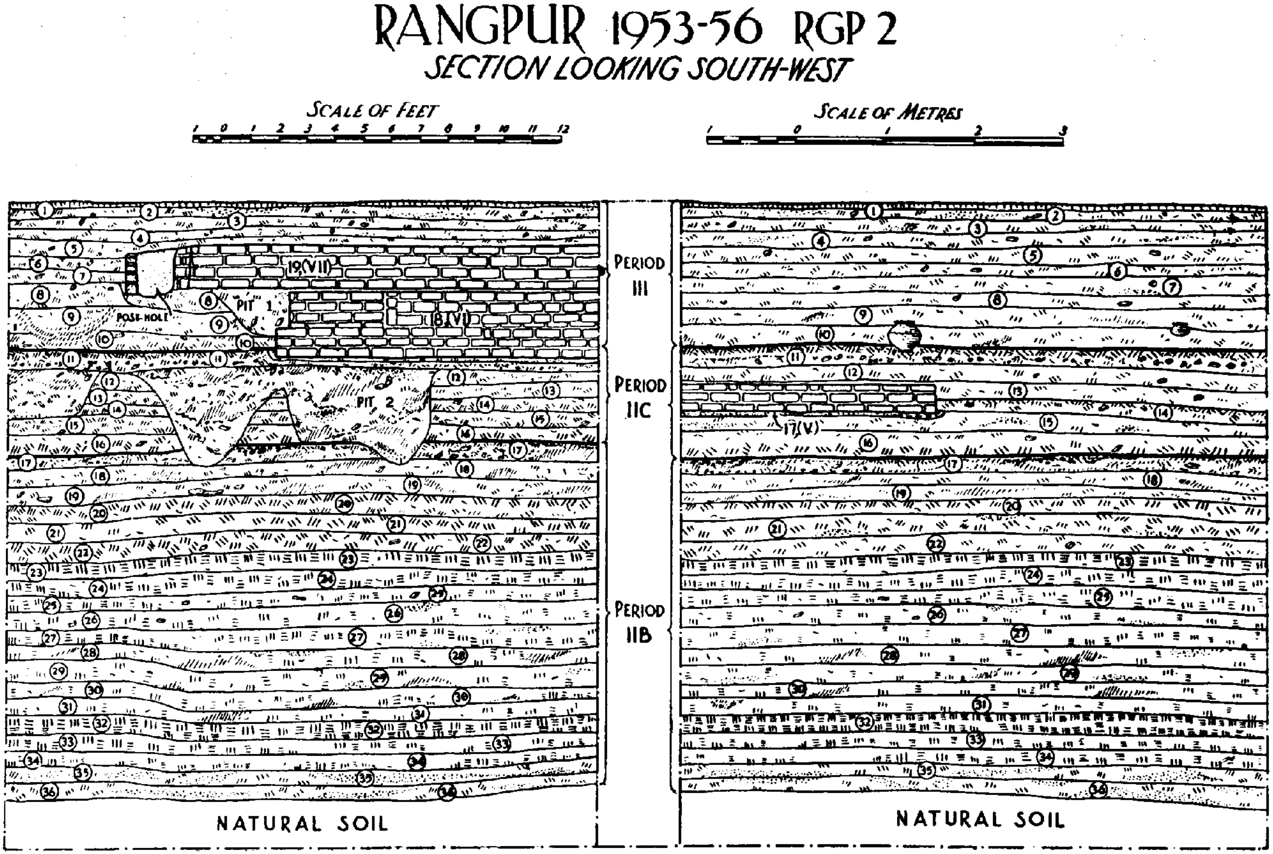
The trench RGP 2 was sunk south of the village at the highest part of the mound to obtain the maximum cultural deposit. It measured 60 × 10 ft.

Successive deposits of Periods II B, II C and III were encountered here. The stratigraphical evidence has helped greatly in establishing the cultural sequence and determining the evolution of ceramic forms. In the early levels almost all the Harappa types occurred in an inferior fabric, while the intermediary levels yielded evolved ceramic forms of a lustrous red colour. In the late levels further changes in the shape of the vessels were pronounced.

SUB-PERIOD II B (LATE HARAPPA CULTURE).—The composition of the layers in RGP 2 varied considerably. A cultural débris of 10 ft. in layers 17 to 36 represented the Late Harappa culture with clear indications of degeneration in the late levels of this Period. Layers 17 to 19 consisted of grey ashy earth, whereas layers 20 to 22 comprised dark compact earth, with the exception of layer 21 which was slightly brownish in colour. Layers 23 to 27 were sticky and of varying compactness. Layer 26 was loose, whereas layer 23 was quite compact. Patches of ash and charcoal were occasionally noticed in layers 28 to 31. Layer 32 was hard to dig and further below the soil was again sticky. Layers 34 and 35 were compact and comprised fine loamy earth, whereas layer 36 was composed of yellowish silt and sand. Only three potsherds were found in this layer. No pottery or any other human artefact was recovered from layer 37 and further below. Locally this soil is known as *muram.* It was buffish silt mixed with sand but below it was a slightly-black soil. Three main ceramic wares were found together in layers 17 to 36. Among them the thick sturdy red ware alone accounts for more than seventy per cent of the total quantity of pottery. But some sherds of the red and buff wares were coarse in fabric when compared with the typical Harappa wares from RGP 3, RGP 4 and RGP 7. The vessel-surface was rough and the slip did not cover the body fully. The uniformity of thickness of lines in painting was lacking. But almost all the characteristic Harappa types were found to be in use. The limited use of the goblet and beaker has been noted previously (above, p. 22). A coarse grey ware, gritty and porous, which must have been used for cooking and storage of water, was also found to occur. Another common ware was the coarse red ware which was slipless but was occasionally painted in simple bands in black. There was also a thin micaceous red ware with a mat-surface painted with a fine brush. Though not many goblets and beakers were found, their occurrence in Late Harappa levels is significant. It must be noted, however, that all the important ceramic wares and shapes of vessels known to the Harappans at Lothal and in Rangpur II A continued in Sub-period II B.

The quantity of pottery varied from layer to layer depending on the composition of the stratum. Layers 19 to 22 did not yield much pottery. It was much less in layers 16 to 21. Though pottery was not meagre in layers 32 to 36, waterlogging had resulted in the disappearance of the slip in many cases. Digging was, however, continued for a further depth of 5 ft. below layer 36 in order to ascertain the composition of the natural soil and to make sure that there had been no earlier habitation after a break. But the barrenness of layer 37 and further below for nearly 4 ft. confirmed that yellow silt was as good as natural soil. Layer 38 comprising black soil was the natural soil.

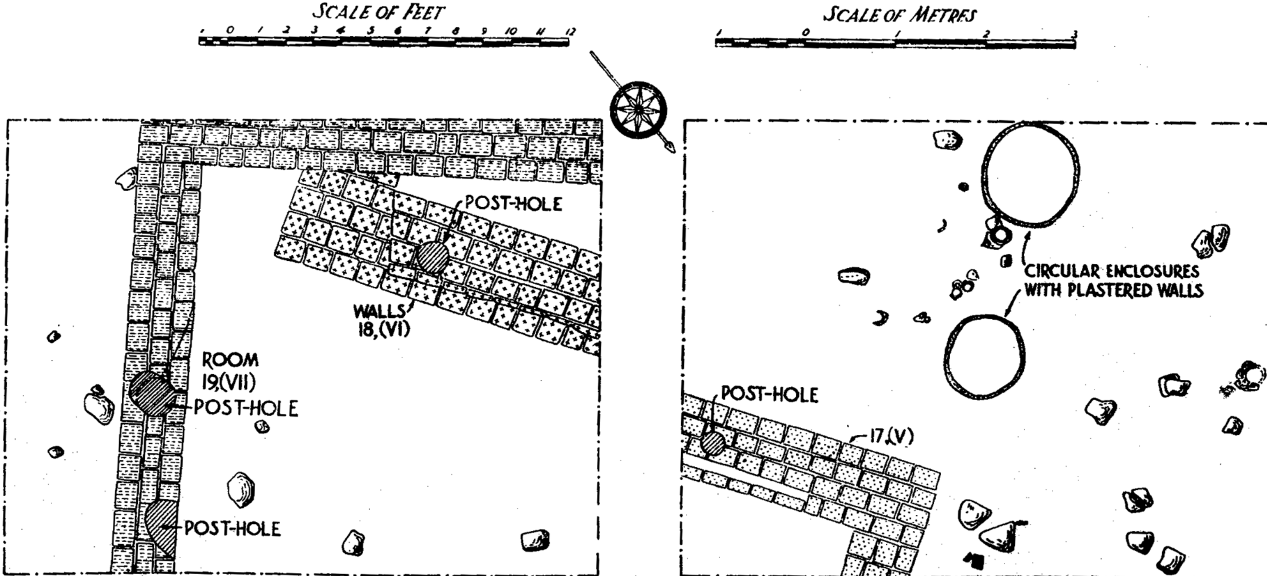
SUB-PERIOD II C (TRANSITION PHASE OF THE HARAPPA CULTURE).—The decline in the material prosperity of the inhabitants of Rangpur in Sub-period II B, as indicated by the use of inferior ceramic wares, the limited use of typical Harappa ornaments of steatite and the absence of chert blades and cubical stone weights, has been mentioned previously (above,



RANGPUR 1953-56 RGP 2
SECTION LOOKING SOUTH-WEST
SCALE OF FEET
1 0 1 2 3 4 5 6 7 8 9 10 11 12
SCALE OF METRES
1 0 1 2 3
PERIOD III
PERIOD IIC
PERIOD IIB
19(VII)
18(VI)
17(V)
PIT 1
PIT 2
POST-HOLE
NATURAL SOIL
NATURAL SOIL


FIG. 5

# RANGPUR 1953-56 RGP 2




*PLAN*

**Fig. 6**

p. 16). But some of the Harappa ceramic forms continued in a modified form. The poor fabric of the vessels was hidden by its lustrous red surface in this Sub-period. A thin variety of the red ware was coarse, while the thicker one was sturdy. The buff ware was also in use. Coarse grey vessels were rarely burnished but were decorated with incised patterns. The absence of the micaceous red ware should also be noted. Among the Harappa ceramic forms, the beaker, perforated jar and goblet were absent, while others, such as the storage-jar with clubbed or beaded rim, dish, dish-on-hand, globular jar with a high neck, convex-sided bowl and bowl with a stud-handle, occurred in large numbers, if in a modified form. The co-occurrence of the sturdy and coarse varieties of red ware with Harappa and evolved forms is a positive proof of the survival of Harappan tradition during this Sub-period.

A mud-brick structure of Phase V laid bare in this trench is assignable to Sub-period II C (fig. 6, *17*, *V*; pl. VI B). Unlike the mud-bricks of Sub-period II A, those of Sub-period II C were found to disintegrate easily as the material used was black clay and not fine alluvial clay. No brick pavement or drain was encountered in this Sub-period in any trench. In layer 11 two circular enclosures plastered with lime-mortar on the inner surface were found to contain ash etc. (fig. 6; pl. VI A). In RGP 6 also four circular enclosures were noticed in layer 6 and two more in layer 18.

Layer 11 in RGP 2 marks the end of the Transition Phase of the Harappa culture. New ceramic traditions were firmly established by then. The black-and-red ware emerged as a popular ware during this Sub-period. The Lustrous Red Ware (pl. XXI B) made its first appearance. The lithic tools comprised short pointed blades and scrapers of jasper.

Period III (Lustrous Red Ware culture).—The Lustrous Red Ware formed the bulk of the pottery in layers 1 to 10, with a marked preference for vessels of smaller size and thinner walls. They had a highly lustrous red surface. The bowl and cup with a deep-carinated shoulder outnumbered those with a blunt carination. Other ceramic types of this Period were the dish-on-stand, the non-carinated dish with a fully-beaded rim, the lamp, the small bowl or wine-cup with a stem and the storage-jar with a beaded rim. The high-necked jar deteriorated into the slipless coarse jar with an elongated neck and sagger-base.

The lithic tools included scrapers of jasper. A couple of short blades of chalcedony were also found. Spheroid weights of trap and sandstone replaced cubical weights of agate as in the late levels at Lothal. Terracotta animal-figures, spindle-whorls, terracotta beads and conch bangles were among the other finds of Period III.

Dwellings were built of mud-bricks and the floor was made up of rammed earth. Two phases of constructional activity, viz. Phases VI (fig. 6; pl. VII A) and VII, are assignable to Period III. In one of the rooms of a house a large storage-jar was found (fig. 6, *19*, *VII*; pl. VII B). It belonged to Phase VII. Close by were two walls laid in layer 11 (fig. 6, *18*, *VI*) and assignable to Phase VI. The occupation-strata in RGP 2 were, on the whole, undisturbed except for a small pit sealed by layer 11. It should be noted here that the little disturbance suggested by the pit occurred at the end of Sub-period II C and not at the end of Sub-period II B. This is confirmed in RGP 5 also, where a pit sealed by layer 10 (fig. 9) showed a disturbance of occupation-strata at the beginning of Period III. If there was any invasion and consequent disturbance in the normal life of the Harappans in the post-flood days, the later strata of Sub-period II B, and not of II C, should have been disturbed. The stratigraphical evidence does not indicate any such disturbance in the life of the Harappans at the end of the decadent phase or in the beginning of the Transition Phase (Sub-period II C). Hence there is no basis to presume that the Lustrous Red

Ware people were aliens who destroyed the Harappa settlement of Sub-period II B and occupied the site.

### (iii) *RGP 3* (fig. 7; pls. VIII-X A)

In the course of a preliminary survey of the site by the author in 1953 some kiln-burnt bricks of a disturbed structure and painted Harappa ware were noticed in a section on the northern periphery of the mound. A trench was, therefore, sunk here to ascertain the lay-out of the structure and the period to which it belonged. Dikshit mentions two occupation-levels indicated by a floor and an oven in the central part of the mound, but neither he nor his predecessors came across regularly-planned houses. On the other hand, the present excavation revealed mud-brick structures built all over the mound. The top few courses of the walls were, however, disintegrated but a careful pick can still uncover whatever is intact.

In RGP 3, measuring 36 × 30 ft., several drains, houses and platforms analogous in construction to those at Harappa and Mohenjo-daro were laid bare. Period I was represented by a microlithic culture in the early levels and Sub-period II A by the Harappa culture in the late levels. There was no evidence of occupation in Sub-periods II B or II C or Period III in this part of the mound.

PERIOD I (MICROLITHIC CULTURE).—Microliths in the form of cores, flakes and tools, unassociated with pottery, came to notice in layer 9, comprising a gravel-lens of sand, which was separated from the Harappan deposit by a barren layer of silt. The microliths were not rolled, and, as such, they cannot be considered as derived from elsewhere and redeposited here by the river. The lithic implements comprised the triangle, trapeze, flake-blade, point, etc. No evidence of domestication of animals was found. The economy must have been primitive and the people must have depended on hunting and fishing. But further large-scale excavation, especially in the lower levels, may throw more light on the economy of the microlith-using people.

SUB-PERIOD II A (HARAPPA CULTURE).—Layer 8 A, overlying the microlithic deposit, consisted of fine silt.

The composition of the succeeding layer, 8, suggests that it must have been a platform of mud-bricks which disintegrated and became a homogeneous mass of alluvial clay. While digging, chunks of hard clay came out like bricks. This layer was succeeded by a 5-ft. thick occupation-débris of the Harappa culture. A drain of kiln-burnt bricks, laid in layer 8 A and contemporary with the succeeding layer of compact alluvial clay, marked the first phase of building-activity. The second phase of construction was indicated by another small drain of kiln-burnt bricks built over a platform of mud-bricks made of fine alluvial clay. Even to this day this material is used for preparing bricks and pots. The vertical joints between the bricks were not as clearly visible in the section as the horizontal lines of various courses were. But there is little doubt that layer 7 was a platform of mud-bricks in Phase II (pl. VIII). Thus, there were two platforms in RGP 3, built one over the other but distinguished by a thin layer of silt intervening between them. The two platforms exposed in RGP 7 (below, p. 38) may be equated with these two mud-brick platforms in RGP 3. A drain of kiln-burnt bricks (fig. 7, *3, II*) built on another mud-brick platform of six courses (fig. 7, *2, II*) was indicative of the second Phase of construction. To the south was a platform ascribed to Phase III (fig. 7, *4, III;* pl. VIII), laid in layer 6, a compact deposit of buffish clay rammed for a floor. It was succeeded by layer 5 comprising brick-bats and other flood-borne material. Layer 4 was hard to dig, and brick-bats of damaged drains were seen lying at the western end.

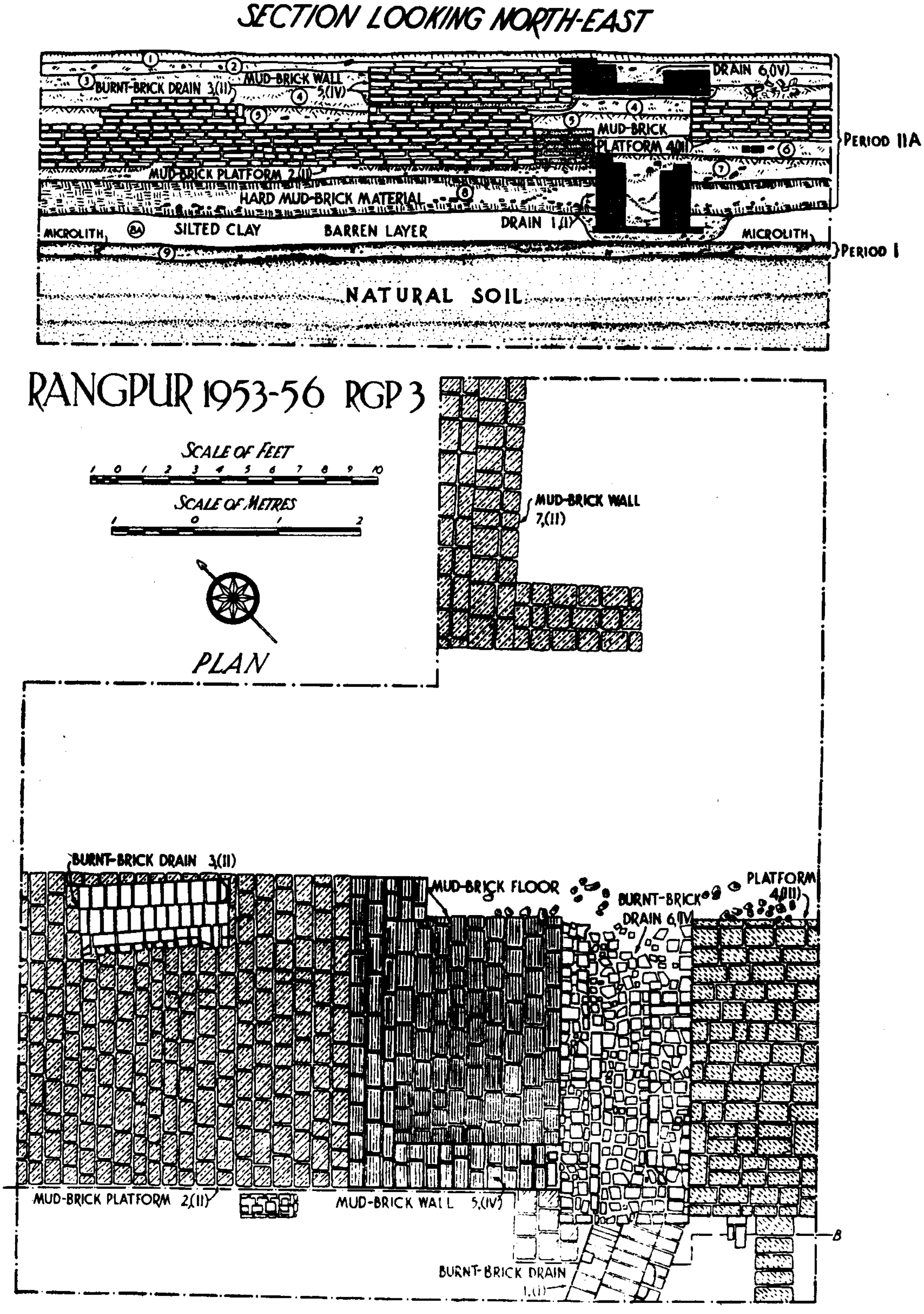

SECTION LOOKING NORTH-EAST
BURNT-BRICK DRAIN 3(II)
MUD-BRICK WALL 5(IV)
DRAIN 6(V)
MUD-BRICK PLATFORM 4(II)
PERIOD IIA
MUD-BRICK PLATFORM 2(II)
HARD MUD-BRICK MATERIAL
MICROLITH
SILTED CLAY
BARREN LAYER
DRAIN 1(I)
PERIOD I
NATURAL SOIL
RANGPUR 1953-56 RGP 3
SCALE OF FEET
SCALE OF METRES
MUD-BRICK WALL 7(II)
PLAN
BURNT-BRICK DRAIN 3(II)
MUD-BRICK FLOOR
BURNT-BRICK DRAIN 6(IV)
PLATFORM 4(II)
MUD-BRICK PLATFORM 2(II)
MUD-BRICK WALL 5(IV)
BURNT-BRICK DRAIN 1(I)
A
B

FIG. 7

Above the débris a wide but shallow drain of kiln-burnt bricks and mud-brick walls of a room belonging to Phase IV laid in layer 3 (fig. 7; pls. VIII and IX) were noticed. Layers 2 and 2 A were composed of silt with small patches of ash and buffish earth. The final destruction was caused by flood as borne out by the débris and silt-deposits (pl. X A).

Pottery was found in layers 1 to 6 only and the rest of the deposit yielded a few fragments, as it was composed of disintegrated mud-brick material and alluvial clay.

There was hardly any change in the composition, form or treatment of the surface of the ceramic wares in any phase from the earliest to the latest in RGP 3.

The red and buff wares were sturdy, thick, well-fired and treated with a buff or red slip to serve as a background for painting. Some of the Harappa types encountered in Period II A are as follows: the small jar with a globular body and footed base (fig. 18, *15*); the dish-on-stand (fig. 23, *76*); the dish with an expanded rim and carinated shoulder (fig. 22, *67*); the goblet (fig. 23, *84*); the beaker (fig. 23, *82*); the convex-sided bowl (fig. 21, *57*); the thick storage-jar with a wide mouth and flat rim (fig. 20, *33*); and the cylindrical perforated jar (fig. 19, *28*).

Ornaments, tools, weapons and household objects belonging to the Harappa culture found in RGP 3, RGP 4 and RGP 7 are listed here: disk beads of steatite (pl. XXXIII, *30* and *32*) and gold (fig. 52, *31* and *34*); tubular beads of steatite, carnelian and faïence (figs. 51 and 52; pls. XXXIII and XXXIV A); lenticular beads of shell and agate (pls. XXXIII and XXXIV A); gold-tinted steatite ornament (pl. XXXIV B); shell bangles (pl. XXXVII A); copper bangles (pl. XXXV B); copper pins, celts and razors (pl. XXXV A); cubical agate weights (pl. XXXIV C); chert blades (pl. XVII A); terracotta animal-figures (pl. XXX A); and terracotta triangular 'cakes' (pl. XXXI B).

The absence of terracotta bangles and sling-balls, the limited use of the goblet and beaker and the scarcity of chert blades suggest a change in the fashions of Rangpur people and consequently lapse of considerable time between the first settlement of the Harappans at Lothal and their settlement at Rangpur. Sub-period II A indicates a late phase of the mature Harappa culture, the maturity being proved by the ceramic types, ornaments, etc. The havoc caused by flood in *circa* 1500 B.C. is borne out by the enormous débris and silt accumulating in RGP 3 and RGP 7. As a result of the flood houses and drains were completely washed away, leaving only the platforms and a drain or two as reminiscences of a once-flourishing town.

### (iv) *RGP 4* (fig. 8; pls. X B-XII A)

A trench measuring 36 × 18 ft. was laid to the north of RGP 3 in order to uncover mud-brick structures which were partially visible in a section of a pit dug by local residents. At a depth of 14 ft. natural soil in the form of sand was reached. The cultural Periods encountered are described below:

PERIOD I (MICROLITHIC CULTURE).—The sequence of cultures noticed in RGP 3 was confirmed in RGP 4. The earliest habitation-deposit which yielded human artefacts is layer 13 composed of fluvatile sand. Nine tools, five flakes and two cores make up the total number of microliths obtained from a limited area of 10 × 10 ft. excavated in the lowest levels. Only one of them is rolled. The succeeding layer, 12, comprising fine alluvium and silt did not yield any artefact and thus confirmed the gap between the Harappa deposit and the deposit of the microlithic culture, as in RGP 3.

SUB-PERIOD II A (HARAPPA CULTURE).—Above the gravel-lens comes a sterile deposit of silt, 2 to 3 ft. thick. A huge pit cut into this layer was found to contain ash, bones and

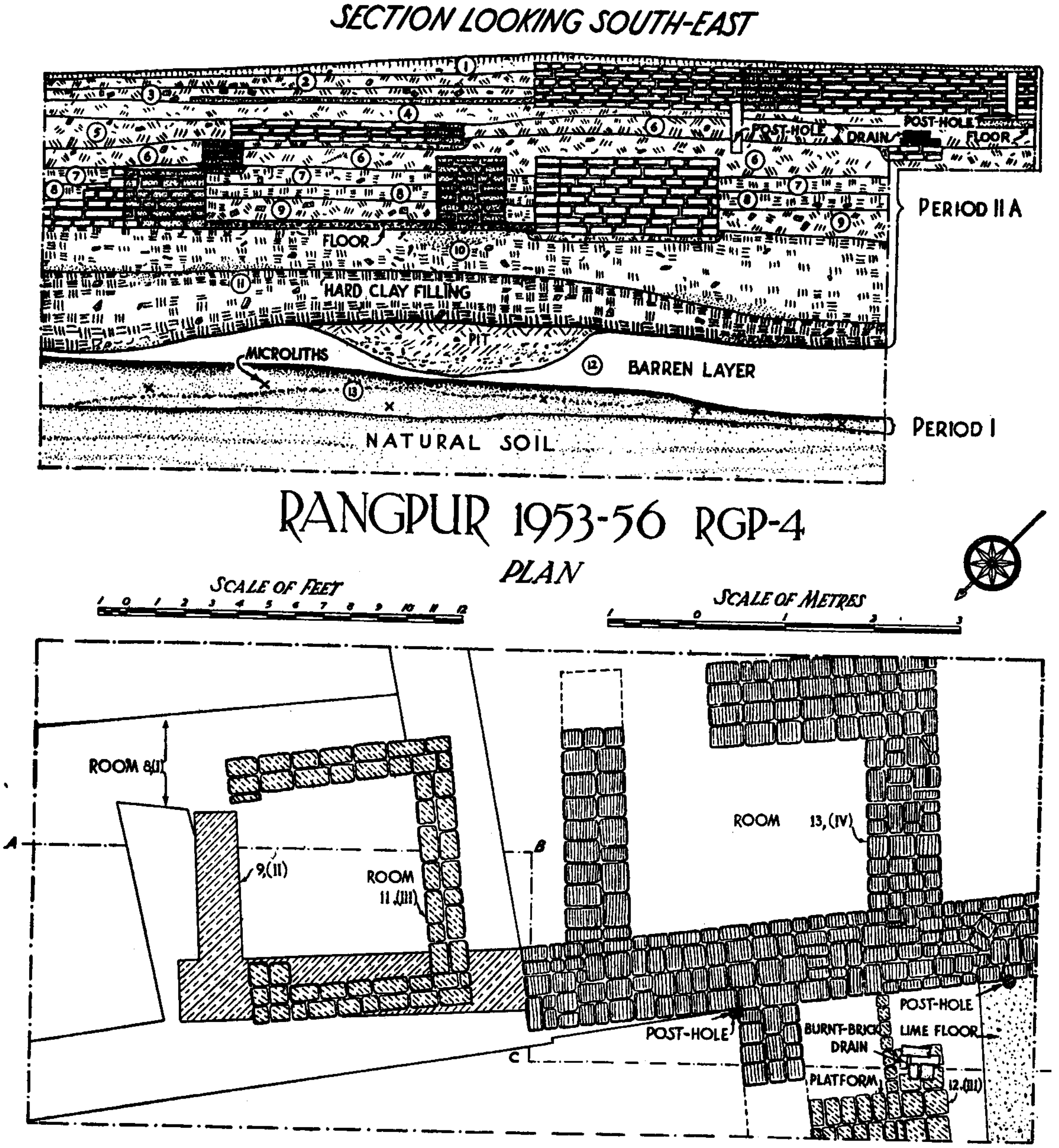



FIG. 8

potsherds of the Harappa culture. Layers 10 and 11 were composed of compact earth and were full of potsherds, animal-bones, triangular terracotta 'cakes' and tools and ornaments, characteristic of the Harappa culture.

Layers 2 to 9, accounting for nearly 9 ft. of habitation-deposit, were of varying compactness depending upon the quantity of disintegrated mud-brick material in each layer. There were four successive Phases of construction (pl. X B) corresponding to the four Phases of RGP 3, but the intervening stratum between the structural Phases

was sometimes not more than 3 to 4 in. thick. Twisted and disintegrated mud-bricks were found all over the trench especially in layers 3 and 9, but a floor, only one-brick thick, or platform could be traced; the rest of the courses of bricks had disintegrated. There is no evidence of any destruction by fire. Even disturbance by way of pits is very little. The final destruction of the earliest Harappa settlement in this sector was also caused by a flood, as indicated by layer of silt and disintegrated mud-bricks sealing the structural remains of Phase IV. Mud-brick was used for all constructions except the drain. A room and a verandah assignable to Phase I were noticed in layer 10 (fig. 8, *8*, *I*; pl. XI A). Two walls of a room (fig. 8, *11* and *12*, *III*) were built over the structural remains of Phase II and a drain over a floor or platform of three courses of mud-bricks laid on the débris of the earlier phase. The floors of Phases I and IV were made up of one course of mud-bricks. The final phase of building-activity was marked by thick mud-brick walls. A large hall with mud-brick pavement was traced over a length of 32 × 12 ft. but its full plan could not be made out as the rest of it had been washed away.

### (v) *RGP 5* (fig. 9; pl. XII B)

In the second field-season, i.e., 1954-55, a trench, RGP 5, measuring 45 × 16 ft. was sunk to the south-west of the village to obtain further evidence of the Transition Phase of the Harappa culture, if possible. It was also necessary to confirm the supposed evolution of the Harappa culture. For this purpose RGP 2 was also extended. In the previous season it had been observed that certain new elements in Sub-period II C were not the result of an intrusion of any alien culture but due to the gradual evolution of the Harappa culture itself. This was now confirmed by the ceramic and other equipment of the Transition Phase in RGP 5. The composition of the strata in RGP 5 was almost the same as in RGP 2. Layers 2 to 10 were of varying compactness. *Kankar* was occasionally noticed in layers 4 and 5, both of which were hard to dig. Small patches of ash were encountered in layers 7 and 8. A huge pit containing ash, burnt earth, lumps of mud-bricks and a large quantity of pottery was found cut into layers 11 to 15. Two mud-brick walls were noticed one below the other in the intermediary levels of the trench. Further below, there was another large pit, the contents of which were shells, pottery and ash. RGP 5 was a greatly disturbed trench, but a portion of it, where mud-brick walls were exposed, was undisturbed. Layers 11 to 15 and 19 to 28 were intact here. Generally speaking, the stratified deposits of Periods II C and III, viz., layers 18 to 42, were more compact and less disturbed than the later ones. Layers 18 to 26 consisted of dark-brown earth, and layer 26 A was a thick deposit of eroded brick material and *kankar*. Further below, sticky clay and *muram* were met with. Owing to water-logging the pottery of layers 37 to 42 had lost the slip; when the surface is rubbed a brownish slip comes off.

Layers 1 to 16 were assignable to Period III, layers 17 to 22 to Sub-period II C and layers 23 to 42 to Sub-period II B. There was but one structure each in Sub-periods II C (fig. 9, *20*, *V*) and Period III (fig. 9, *21*, *VI*; pl. XII B) in RGP 5. This trench is noted for a considerable quantity of black-and-red ware vessels. Lustrous Red Ware vessels were also profuse. Some of them were painted with animal figures.

### (vi) *RGP 6*

This trench measured 48 × 16 ft. and was excavated to a depth of 12 ft. in the southern half and to a lesser depth in other parts. Natural soil was not reached anywhere, because digging had to be abandoned owing to the disturbed nature of the most of the layers except the first nine. In the northern half of the trench four circular clay enclosures

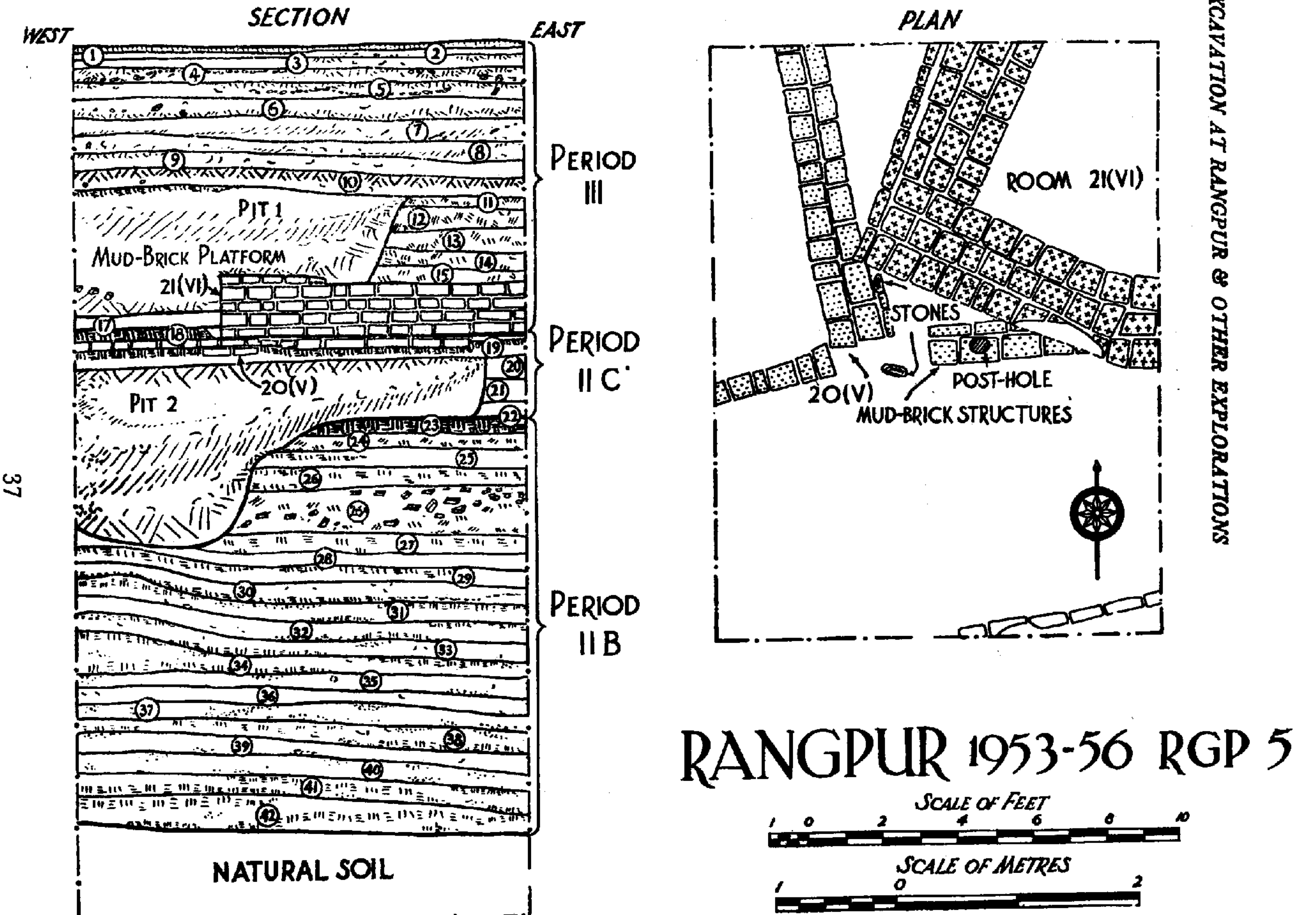

SECTION
WEST
EAST
PIT 1
MUD-BRICK PLATFORM
21(VI)
PIT 2
20(V)
PERIOD III
PERIOD II C'
PERIOD II B
NATURAL SOIL
PLAN
ROOM 21(VI)
STONES
POST-HOLE
20(V)
MUD-BRICK STRUCTURES
RANGPUR 1953-56 RGP 5
SCALE OF FEET
SCALE OF METRES

FIG. 9

plastered with lime-mortar on the inner surface were found to contain ash. The only evidence of building-activity was a pavement of mud-bricks which were rendered out of shape owing to percolation of water. The ceramic evidence from layers 10 to 18 was valuable from the point of view of the evolution of the Lustrous Red Ware types. The painted vessels were numerous. The black-and-red ware and the Lustrous Red Ware formed two major ceramic industries in Period III. Pottery of the intermediary levels was poor in fabric and the types were of the Transition Phase (Sub-period II C). Layers 1 to 12 are assignable to Period III, layers 13 to 20 to Sub-period II C and layers 21 to 24 to Sub-period II B. The earlier levels were not reached.

### (vii) *RGP* 7 (fig. 10; pl. XIII)

The purpose of excavating once again the northern part of the mound in the second field-season was to ascertain the relative chronological position of the red and buff wares. The cutting RGP 7, which ran north-east to south-west, measured 24 × 13 ft. and was 17 ft. deep. The gravel-lens yielding microliths was succeeded by a barren deposit of silt and sand, which in turn was succeeded by the Harappan. Thus, the cultural sequence noticed earlier in RGP 3 and RGP 4 was confirmed in RGP 7 also. Characteristic Harappan forms in red and buff wares were found in layer 18 and above right up to the surface. Three successive Phases of structural activity, all belonging to Sub-period II A, were encountered here. The buildings of the latest Phase were greatly damaged by flood resulting in the abandonment of the site. Layers 1 to 4 were loose and comprised blackish earth and silt. Further below, three structures, viz. walls of houses and platforms belonging to Phases I to III, were laid bare. In the late levels two mud-brick walls assignable to Phase III, built over a fairly thick platform of six courses of mud-bricks belonging to Phase II, were met with. Layer 9, composed of fine alluvium, separated the platform of Phase II from the one noticed below. Layers 10 and 11 were also fairly compact but layers 12 and 13 were loose and contained patches of ash. Layers 14 to 17 consisted of compact brownish earth underlying which was a deposit of silt in layers 18 and 19. Layer 20, which was essentially a fluviatile deposit composed of fine sand, yielded microliths. Finally, below it came coarse sand which formed the natural soil.

Period I (microlithic culture).—The gravel-bed touched in the earliest levels was excavated over a very limited area of 12 × 10 ft. and as such only three flakes and a scraper were recovered. Although the number of lithic implements found is small the earlier observation made in RGP 3 and RGP 4, viz. the existence of a microlithic culture in the pre-Harappan levels with a gap between the two, was confirmed.

Sub-period II A (Harappa culture).—All the chief Harappa ceramic wares, viz. the red and buff wares, the coarse grey ware and the coarse red ware were in use in Sub-period II A. All the major Harappa ceramic types, such as the storage-jar, perforated vessel, basin, dish, beaker and goblet, were found in layers 2 to 17. A double-pot in red ware is an interesting ceramic type (fig. 19, *27*; pl. XXIX C), analogous to the one from Kot Diji in Sind (pl. XXIX E). Among structural remains mention may be made of two platforms uncovered in the early levels and a room with mud-brick walls in the late levels. The earliest platform, assignable to Phase I in layer 13, could be traced over a width of 6 ft. the rest of it being damaged by flood. The more extensive platform laid in layer 8 was assignable to Phase II (pl. XIII A). Two mud-brick walls of house of Phase III were laid in layer 6. Flood-borne débris is clearly visible in the late levels in the section (pl. XIII A).

In the course of the excavation in 1953-54 and 1954-55 it was observed that the natural soil in RGP 3, RGP 4 and RGP 7 was sand. The cuttings made in the central

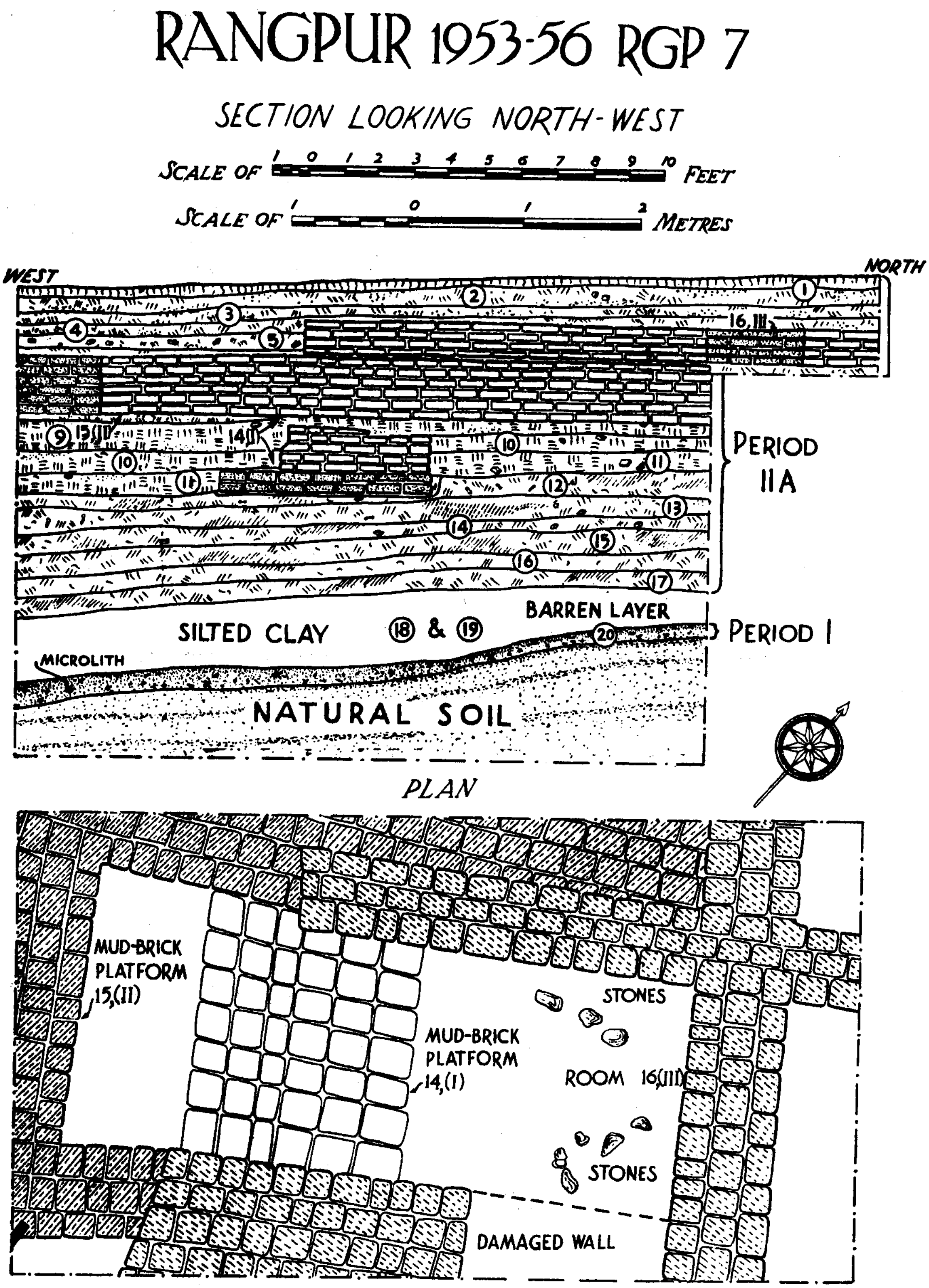

RANGPUR 1953-56 RGP 7
SECTION LOOKING NORTH-WEST
SCALE OF FEET
SCALE OF METRES
WEST
NORTH
PERIOD IIA
SILTED CLAY
BARREN LAYER
PERIOD I
MICROLITH
NATURAL SOIL
PLAN
MUD-BRICK PLATFORM 15,(II)
MUD-BRICK PLATFORM 14,(I)
STONES
ROOM 16(III)
STONES
DAMAGED WALL

FIG. 10

parts of the mound also revealed a layer of yellowish silt which is locally known as *muram* below a blackish silt; neither of them yielded any human artefact. In a section of the river-cutting a black soil is found to overlie an occupation-deposit of 3 to 4 ft. (pl. XIV), wherein the characteristic pottery of the Transition Phase was found. Below it comes buffish *kankary* earth. At the base is a gravel-bed. It was, therefore, felt necessary to ascertain the cause for the non-occurrence of the black soil in the cuttings RGP 3, RGP 4 and RGP 7, and to account for the presence of a sticky black silt in the central parts of the mound, while a blackish soil overlies the occupation-débris of the Transition Phase. This problem assumes significance because most of the late chalcolithic settlements of central India and the Deccan took place on black soil, whereas the Harappa settlements were invariably on silt-deposits. The absence of the black soil below the Harappa deposit in the cuttings RGP 3, RGP 4 and RGP 7 meant that either the black soil had not been formed when the Harappans first came to settle down at Rangpur or that they totally removed it before settling down. In that case the black soil overlying the habitation-deposit of Sub-period II C in the river-cutting should be a secondary deposit drifted from a higher place. But there is no higher place other than the central part of the mound wherefrom this soil could have been derived. The cotton-fields all round the mound are lower than the top of the river-bank. It is likely that the very composition of the two soils is different.

### (viii) *RGP 8*

With a view to ascertaining the stratigraphical position of the black soil, a small trench was laid in a field at a distance of a hundred feet from the foot of mound to the south-west of the village. For a depth of 3 ft. pottery of the Transition Phase with a weathered surface was found in a very limited quantity in the black cotton soil. Further below there was buff silt, but no pottery.

### (ix) *RGP 9*

A trial-pit was sunk on the left bank of the river Bhadar, wherein layers 1 to 3 were found to be blackish. A few Lustrous Red Ware sherds were found along with carinated bowls with a red slip and about 2 ft. further below blunt-carinated bowls, high-necked jars, etc., were encountered. Layer 4, comprising *muram* and *kankar*, yielded no human artefact and was therefore considered the natural soil. Lastly a deposit of coarse-grained sand and pebbles was noticed.

From the foregoing description it is apparent that the present black soil was in the process of formation during the Transition Phase (Sub-period II C) of the Harappa culture, or if it had been already formed, the Harappans might have removed it while building their dwellings in the western parts of the mound, thus accounting for the absence of that soil in RGP 3, RGP 4 and RGP 7. In any case the black soil overlying the late Harappa deposit does not appear to be a weathering *in situ*. In the present state of our knowledge it is difficult to say whether the black cotton soil noticed in the fields around is, in point of time, earlier than the Harappa culture or not. A chemical analysis of the surface black soils of the present day and the blackish silt found as natural soil in the trenches in the central and eastern parts of the mound may throw more light on the problem. The flood that destroyed the settlement of Sub-period II A left some silt (*muram*) in the central part of the mound, over which the post-flood occupation of Sub-period II B took place.

It may not be out of place here to mention that at Lothal the black soil actually overlies mud-brick platforms and the natural soil is found to be *muram*, i.e., buffish silt. One of the explanations offered by certain scholars is that this black soil is not *regur*

formed out of any basal rock but is only a silt formed on account of stagnation of water in the low-lying regions for the last several thousand years and due to the growth of vegetation. A scientific investigation by the geochronologists of the Survey is being carried out and the results are awaited. It is also necessary to ascertain the difference, if any, between the black soil of Rangpur-Lothal region and the black cotton soil of central India and the Deccan over which the post-Harappa chalcolithic people settled.

## F. The structures

No structural remains have been reported by Vats, Ghurye or Dikshit. Mention may, however, be made of some mud-bricks noticed by Vats and two floor-levels encountered by Dikshit. But in the course of the present operations structures were met with in all the cuttings. Mud-brick houses must have existed all over the site, but owing to percolation of water they have disintegrated, making it sometimes difficult to distinguish between eroded mud-bricks and built-up structures *in situ*. A keen eye can, however, distinguish between the two, and a careful pick can save the structures from destruction. The horizontal lines demarcating each course of bricks and the vertical joints between them can be noticed in diffused light. The complete absence of pottery and other objects, the compactness of the earth and, above all, the distinction between the walls and accumulated débris should help to recognize mud-brick structures.

Period I.—No evidence of construction of houses was encountered in Period I, when the microlithic economy was still primitive.

Sub-period II A.—This witnessed a feverish building-activity owing to the fact that the people who came to settle down at Rangpur had by then known urban life at Lothal, Harappa and Mohenjo-daro. They bestowed great attention to the maintenance of sanitary conditions and devised measures for protecting the houses from inundation. Within a cultural deposit of 8 ft. four Phases of construction are seen in Sub-period II A. A major part of the area covered by the earliest habitation of the Harappans at Rangpur is occupied by the present hutments, and what little portion was left to the north-west of the village has been eroded. It was also not possible to ascertain the lay-out of the streets and alleys of the Sub-period owing to the fact that a very small area is available for excavation. Within the limited area excavated partial plans of drains, platforms and walls of houses were ascertained. Very little has been left to enable a reconstruction of the full plans of houses and platforms. But one thing is evident, and that is that the Rangpur folk built houses with mud-bricks and used kiln-burnt bricks only for drains and baths. This may be due to the scarcity of fuel. The average size of burnt bricks is 11 to 11½ in. × 5½ to 6 in. × 2½ to 3 in. The mud-bricks are of sizes varying from 12 in. × 6 in. × 3 in. to 18 in. × 9 in. × 3 in.

Gaining from the experience they had the Harappans built their houses on platforms as early as Phase I of Sub-period II A as a precaution against inundation. Similar constructions are noticed at Lothal, Harappa and Mohenjo-daro. Each time the flood destroyed the houses, platforms were built to a greater height to raise houses over them once again. Kiln-burnt bricks were used for bath-rooms and drains, while mud-bricks were used for all other purposes. The façade of the dwellings and the nature of the roof or the material used therefor cannot be ascertained for want of any evidence left. On the analogy of the constructions made at Harappa and Mohenjo-daro the roof must have been made of bamboo and rush-matting supported by wooden rafters at Rangpur also. In addition to walls there were also wooden posts provided at the junction of the walls as indicated by post-holes (pl. XI B) to support the roofs of the houses belonging to Phases III and IV.

Both public and private drains were built with kiln-burnt bricks. In only one case was the drain found covered, and possibly in other cases the bricks covering the drains were removed or washed away by flood. Large-scale brick-robbing is also responsible for effacing out of existence several burnt-brick structures including drains. Broken bricks removed from the earlier structures were re-used in Phase IV as is the case in the last Phase of Harappa occupation at Mohenjo-daro and Lothal.

No street as such could be traced owing to the limited operations. It was, however, noted that while the same alignment was maintained in different Phases in RGP 3 (pl. VIII), it was changed in RGP 4 (pl. X B).

Foundations were sometimes laid on slip-shod débris of houses of earlier Phases. In some cases, the mud-brick platforms of the preceding Phase acted as plinth. Floors were paved with mud-bricks in Phases II, III and IV (figs. 7 and 8) and were made up of rammed earth or lime and *kankar* (fig. 8) in Phases V to VII. The drains were paved with burnt bricks (pl. IX). Mortar was normally of mud, but lime was also used especially where the mud-bricks were weak. Great care was taken in Sub-period II A to drain off sullage and rain-water. The drains are an indication of the excellent sanitary arrangements existing even in a small town like Rangpur.

SUB-PERIOD II B.—No mud-brick structure of any kind belonging to Period II B came to notice in RGP 2 or RGP 5. The post-holes and disturbed floors of rammed earth traced in two levels suggest shabby huts with walls of mud or reeds and thatched roof. This is because the survivors of the flood could not afford to build walls of mud-bricks nor construct any drain.

SUB-PERIOD II C.—Mud-brick houses came to be built once again on débris of earlier Periods (fig. 6, *17*, *V*), indicating considerable improvement in the economic condition of the residents. The use of wooden posts for supporting the thatched roof is suggested by the post-holes. Burnt brick was not used for any purpose and drains and platforms were unknown. The walls were thinner when compared with those of Sub-period II A and the mud-bricks used disintegrate easily because of black clay used for the purpose. Mortar was of mud. Two rooms of Phase V were traced in RGP 5 (fig. 9, *20*, *V*) and one in RGP 2 (fig. 6, *17*, *V*).

PERIOD III.—There were two Phases of construction, viz. VI and VII, in Period III. Further improvement in the construction of houses is indicated by the use of lime-mortar as binding-material in addition to the use of mud-bricks for the superstructure. The size of the rooms was also larger (pl. VII) than in Sub-period II C. Post-holes suggest the use of wooden posts for supporting the roof. The floor was made up of rammed earth and *kankar*.

The present excavation revealed seven structural Phases, of which the first four are ascribed to Sub-period II A and the fifth to II C and the sixth and seventh to Period III.

### (i) *Phase I*

Structural remains of Phase I were noticed in RGP 3, RGP 4 and RGP 7. A drain of kiln-burnt bricks (fig. 7, *1*, *I*; pl. VIII), 3 ft. deep and 3½ ft. wide, traced over a length of 3½ ft. in RGP 3, was found built in thirteen courses. The bricks measured 11½ × 6 × 2¾ in. The drain was laid in layer 8 A and sealed by layer 6. If depth be any indication, it appears to be a public drain, as there is no corresponding floor or platform of any house adjoining it, whereas in the case of private drains of the subsequent Periods there is a platform or a flooring of a house with which they are associated. One complete room (fig. 8, *8*, *I*; pl. XI A) and a verandah of a mud-brick house of Phase I

were uncovered in RGP 4. Eight courses of bricks were visible. The bricks measured 11¼ × 6 × 2¾ in. and were made of fine hard alluvial clay. The foundation of the structure had an offset and the floor was made up of rammed earth only. The structure was laid in layer 10 and sealed by layer 6. A copper celt and a small earthen pot containing four thousand and nine hundred steatite micro-beads were found in the room.

A platform of mud-bricks (fig. 10, *14*, *I*; pl. XIII A), the western face of which was eroded by flood, was exposed in RGP 7. A flood-deposit, upwards of 2 ft. thick, consisting of bricks, silt, etc., was noticed in the section. The structure was laid in layer 13 and the bricks used for its construction were very hard.

### (ii) *Phase II*

Extensive structural remains of Phase II were encountered in RGP 3, RGP 4 and RGP 7. In RGP 3 a platform (fig. 7, *2*, *II;* pl. IX A) was traced over a length of 13½ ft.; its width was 12½ ft. Eight courses of bricks were visible. Though the courses farther below were not clearly seen, the material underlying the eight courses was undoubtedly of mud-bricks. It was composed of fine alluvial clay, very hard to dig, and lumps of bricks came out when dug. A drain of kiln-burnt bricks, 2½ ft. wide, was found constructed in three courses (fig. 7, *3*, *II;* pl. IX A) over a platform which served as a floor for the dwellings built over it. Remains of another drain farther west of the platform also came to view. There was a small room measuring 8 × 5 ft. further east of the platform of Phase II, but its walls were damaged (fig. 7, *7*, *II;* pl. X A). Strong mud-bricks and mud-mortar were made use of for construction.

In RGP 4 two walls of a room (fig. 8, *9*, *II;* pl. X B), 10×5½ ft., were found constructed over a mud-brick platform of Phase I, which was visible in section. The full measurements of the room could not be ascertained. Its foundation-trench was cut into layer 7, and the eroded face of the mud-brick platform over which dwellings were raised could be seen.

There was yet another platform in layer 8 (fig. 10, *15*, *II;* pl. XIII A) in RGP 7, and its six courses of bricks were visible. Its extent could not be traced especially towards the west. It had been damaged by flood, as was clear from the erosion-lines and flood-borne débris deposited in the north-east corner.

### (iii) *Phase III*

Structural remains of Phase III were found in RGP 3, RGP 4 and RGP 7.

A mud-brick platform encountered in the intermediary levels of RGP 3 and assignable to Phase III was considerably damaged (fig. 7, *4*, *III;* pl. VIII). Traces of a damaged drain constructed over it were also noticed.

There were two rooms of this Phase in RGP 4 (fig. 8, *11*, *III;* pl. X B). Remnants of a drain of kiln-burnt bricks built over a pavement of mud-bricks were visible in the north-western corner in layer 6. A post-hole was also seen at the junction of the walls of Phases III and IV. Stone querns, polished grinders, mullers, balls and weights were found on the floor. Apparently a large house must have been built on an extensive platform, as could be made out from mud-bricks traced over a large area.

In RGP 7 the building-activity of Phase III was marked by mud-brick walls (fig. 10, *16*, *III*; pl. XIII B) built over a platform of Phase II. The walls extended northwards and westwards into the sections. The foundation-trench was laid in layer 6. Flood-débris comprising bricks, potsherds and silt was noticed here also.

### (iv) *Phase IV*

In the trenches RGP 3 and RGP 4 structural remains of Phase IV were exposed shortly below the surface-humus. In RGP 3 three walls of a room and a drain of kiln-burnt bricks (fig. 7, *5, IV* and *6, IV*; pl. IX B) were seen built over a platform. An idea of the plan and method of construction of houses as well as the purpose for which platforms were built can be had from them. A drain attached to a house discharged itself into a larger public drain, as at Lothal, Harappa and Mohenjo-daro. The houses were generally built over platforms to keep them above the normal flood-level.

In the latest level of RGP 4 was a large room assignable to Phase IV (fig. 8, *13, IV*; pl. XI B), measuring $8\frac{1}{2} \times 6$ ft. The walls were 3 ft. wide and the floor was made up of lime. A post-hole was also noticed at the junction of two walls. It must be noted here that the construction of houses of this Phase was shabby as in the latest levels of Lothal A and Mohenjo-daro.[1]

A few general observations on the method of construction may be made here. Mud-bricks were not of uniform size. Normally the size of the bricks is of two widths to a length. Headers and stretchers were laid in alternate courses in the construction of walls and platforms and a proper bond was provided at the corners. Although the majority of the bricks were not kiln-burnt, they were quite strong owing to the fact that fine alluvial clay had been used in their manufacture. Mud-mortar served as binding-material in most of the houses, but lime-mortar was also known.

The construction of mud-brick platforms to serve as high plinths for the dwellings to save them from inundation is a distinctive feature of almost all the Harappan settlements, including Lothal,[2] Harappa and Mohenjo-daro. The height of the platforms varied according to necessity. Whereas Lothal is situated in a bowl-like low-lying region subject to heavy floods in the rivers for prolonged periods, Rangpur, situated as it is in a higher region, has to face floods of lesser intensity and for shorter periods. However, the Bhadar river is a source of danger to Rangpur even to this day and must have been so in protohistoric times. The fact that the Harappan settlement was subject to inundation is borne out by the flood-débris noticed in the late levels of Period II A especially in RGP 3 and RGP 1. A great flood must have totally washed away the structures constructed in the fourth Phase of the Harappan occupation.

Burnt bricks were scarce and were sparingly used for drains only. Damaged bricks were re-used for the construction of drains of Phase IV in RGP 3, indicating thereby the decline in the standards of construction. The drains varied in depth from 9 in. to 3 ft., and in width from 10 in. to 2 ft. In RGP 4 the drain was only 4 in. wide and the bricks were laid on edge. The walls of the drain of Phase I in RGP 3 were two-brick wide, whereas they were three-brick wide in Phase IV, and one-brick-and-a-half wide in Phase II. Considerable damage was caused by floods to the uppermost drain in RGP 3, as can be inferred from the débris lying near by (fig. 7; pl. IX B). Apparently the drains in the cutting RGP 4 have been completely washed away, leaving only a few bricks *in situ.*

### (v) *Phase V*

One structure each in the cuttings RGP 2 and RGP 5 was found to belong to the Transition Phase of the Harappa culture, i.e., the fifth Phase of construction. The walls

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[1] Wheeler, *op. cit.* (1960), p. 44.

[2] *Indian Archaeology 1956-57—A Review* (1957), pl. XII B.

were built of mud-bricks in mud-mortar. A partial plan of each of the structures could be made out. In RGP 2 two mud-brick walls with two post-holes were found (fig. 6, *17, V;* pl. VI B) laid in layer 15. The walls were $2\frac{1}{2}$ ft. wide with four courses of bricks intact. In RGP 5 two structures of this Phase were found to have been destroyed by fire. One of them was laid in layer 18 (fig. 9, *20, V*).

### (vi) *Phase VI*

Two walls of a house built of mud-bricks were laid in layer 11 and are sealed by layer 7 in RGP 2 (fig. 6, *18, VI;* pl. VII A). Clay was rammed in the foundation-trench. In RGP 5 also there was a mud-brick wall $2\frac{1}{2}$ ft. wide, assignable to Phase VI. It was laid in layer 15 and sealed by layer 12 (fig. 9, *20*, V).

### (vii) *Phase VII*

The latest Phase of building-activity was marked by two walls of a room with a floor of rammed earth exposed in RGP 2 (fig. 6, *19, VII;* pl. VII B). A storage-jar was found on the floor of the room. The walls were $2\frac{1}{4}$ ft. wide and had two post-holes. A group of four circles on a mud-brick floor assignable to Phase VII was noticed in the latest occupation-level in RGP 6. The significance of such circular enclosures is not very clear. But on the analogy of similar circular enclosures containing ash, triangular terracotta cakes, etc., found at Lothal,[1] they may be said to indicate places of fire-worship In RGP 2 also ash, stones, etc., were noticed in circular enclosures of clay.

## G. Economic and social conditions

For getting a complete picture of the economic and social conditions and religious beliefs of the inhabitants of Rangpur in the pre-Harappa, Harappa and post-Harappa periods of occupation, it is essential that a much larger area than has been excavated so far will have to be tapped. The mound is extensive and the settlement must have been fairly large in the Harappa period and still larger in the subsequent periods. The present operation was limited to vertical digging and will have to be followed by horizontal digging.

No information is available regarding the habitations of the people of Rangpur in Period I. They must have lived by fishing and hunting and were essentially food-gatherers. No definite evidence of food-producing habits has come to notice. The few bone fragments recovered from the gravel-bed do not throw any light on the animals known to them; much less can it be said that they domesticated any animal.

In assessing the achievements of the Rangpur people in the field of arts and crafts, trade and commerce and civic amenities in Period II A it must be remembered that Rangpur was a very small settlement when compared with Harappa and Mohenjo-daro, and it would be too much to expect a highly-sophisticated life as in the Indus cities. It is said of the Harappa civilization that 'nowhere in antiquity had so high a degree of civic prosperity been reached at such an early date, and nowhere in the Ancient East was there a people who seem to have been less baited by princes, priests and war...Nowhere in antiquity has life appeared so ordered and secure.'[2] Rangpur is in a sense a miniature

[1] S. R. Rao in *Lalit Kalā*, nos. 3-4 (1956-57), pp. 82-89.
[2] R. F. S. Starr, *Indus Valley Painted Pottery* (Princeton, 1941), p. 6.

representation of the larger cities. The same sense of sanitation, the same degree of attainment in arts and crafts and the same architectural features as are noticed at Lothal, Harappa and Mohenjo-daro are noticebable on a small scale at Rangpur.

Fishing and agriculture were the main occupations of the Rangpur people. Corn was ground into flour on stone querns with the help of grinders, for querns and grinders have been found in Periods II A, II C and III. The people are known to have grown rice and pearl millets (below, p. 161). It is likely that they also produced wheat just as the Harappans did elsewhere. Lothal also grew rice; impression of cloth noticeable on sealings indicates that cotton was grown. The identification of other grains recently found is awaited. Even to this day the Bhal region, where Rangpur is situated, is famous for cotton and wheat, which must have been the chief crops grown in protohistoric times also. Spinning and weaving were practised by the Rangpur folk. Spindle-whorls of terracotta bear testimony to their knowledge of spinning. From the fish-hooks recovered at Lothal and fish-bones collected in the excavation at Rangpur it is evident that fishing was an important occupation.

The inhabitants of Rangpur reared the sheep, goat, humped and humpless bull, cow and pig, whose bones or clay models have been found throughout the chalcolithic phase of occupation. They domesticated the ass and probably horse and elephant too; peacock and deer which they liked most are found painted frequently on earthenware. Two clay models of horse have been recovered from Period III strata. It is, therefore, evident that the horse was known to the Rangpur people in that Period, but how much earlier it was introduced is not known. Even to this day Gujarat is famous for horses. Among wild animals, the tiger, leopard and rhinoceros were known to the Lothal folk. It is, therefore, quite likely that their contemporaries at Rangpur also knew these animals. Water-birds, including ducks, are painted on the vessels in a highly-stylized form in Periods II C and III (pl. XXI B, *1*).

Though rainfall might have been slightly heavier in the first and second millennia B.C. than what it is today as borne out by frequent floods, the countryside might not have been wooded heavily because the soil is surcharged with saltpetre. An examination of the wood-specimens has revealed that several species of the *Accacia*, the *Albrizzia* and the *Tamarix* sp., etc., were used for timber. Lack of adequate fuel was the chief cause for the use of mud-bricks instead of kiln-burnt bricks for the construction of houses. Wild life was also scarce.

The Rangpur people were peace-loving. Hardly any offensive weapon, such as arrow-head and battle-axe, has been found. The two copper celts found in the Harappan and Transition Phase levels respectively might have been used for nothing more than cutting wood. Chert blades were very scarce in the Harappa period and subsequently they were replaced by flimsy scrapers which could not have served any offensive purpose; so also copper pins, bone awls and the like. On the whole, it can be said that there was no military class as such; nor did the inhabitants build any fortification-wall to defend themselves against any human foe. The platforms should not be mistaken as fortification-walls.

The Rangpur people had for their tools, copper and bronze celts, pins, razors and knives throughout the chalcolithic period of occupation. The lithic implements comprise long parallel-sided blades of chert imported from Lothal or the Indus valley cities and were used as knives in early days. Scrapers of jasper and very rarely parallel-sided blades of chalcedony came into use in Period III.

Tubular micro-beads of burnt steatite and terracotta and faïence beads were locally prepared, but other varieties must have been imported. Even steatite came from outside.

A black agate bead with fine polish deserves mention. Faïence, carnelian, agate, jasper, shell and ivory were also used for making beads. Filigree-work was well-known to the goldsmiths of Rangpur in Period II A. They also prepared fine gold beads. Steatite and faïence became extremely scarce in the late Harappan days and the Transition Phase. Hence biconical terracotta beads with an extremely fine slip replaced faïence beads of similar shape. Cylindrical carnelian beads and disk steatite beads ceased to be in use in Periods II C and III. Other personal ornaments in use included shell and copper bangles, copper rings and terracotta beads (pls. XXXIII and XXXIV A).

It is not known whether copper celts, razors and pins were made locally. Lothal was an important copper-working centre. Low-tin bronze was normally used, but a few specimens show a high percentage of tin (below, p. 152).

The art of modelling was highly developed. Terracotta animal-figures, especially bulls and horses of Period III, are good examples of the art in the round, but no terracotta human figure has been found so far except an object from Period III, which may be a human leg. Even at Lothal human figures are rare. An overall degeneration noticed in Period II B is reflected by the absence of comfortable and durable houses and decline in the cultivation of various arts including modelling and painting. Terracotta animal figures were scarce in Period II B. Lithic and metals implements were also rare.

Trade was well-regulated. The standard of weights was fixed. Cubical agate weights found in Period II A strata correspond in weight (13·286 gm. to 13·470 gm.) to those of similar size from Lothal and Indus valley cities. Spheroid weights of granite and dolerite found in Periods II C and III weigh 12·767 gm., 26·612 gm., 46·766 gm., 58·126 gm., etc. For transport of men and goods double-ox carts must have been in use. Excepting the camel the usual beasts of burden were known. The horse was also known by the beginning of the first millennium B.C. Terracotta cart-frames and wheels with and without hubs have been found. The commodities traded in must have been very many. The people had to sell agricultural products in exchange for metal, stone implements, steatite, gold and faïence ornaments and many other things. The nearest market-town for Rangpur was Lothal, which was not only a port but also an industrial centre. Lothal imported steatite, chert, carnelian and gold from different places.

The artistic sense of the Rangpur people can be judged from the decoration of the earthenware by paring, painting and burnishing. The pleasing colour-scheme and the painted geometric and naturalistic designs are truly reminiscent of the Harappa culture. Normally the painting is executed in black over a red slip and occasionally in chocolate or pink over buff. The use of more than one slip to produce a bichrome or polychrome effect is an interesting feature.

After a period of neglect in the various arts, including modelling and painting, there was a revival in Periods II C and III. Terracotta animals especially bull and horse were carefully modelled. Once again copper and lithic tools came into use. Larger houses of mud-brick were built and the size of the village also increased. Metals and other requirements came to be imported. New traditions were evolved. Rangpur became the centre of the Lustrous Red Ware culture by the end of the second millennium B.C.

## H. Religion

In the present state of our knowledge the spiritual concepts of the Rangpur people in the Harappa and post-Harappa periods cannot be made out. There are, however, some indications of a ritual involving domestic fire-worship throughout their occupation.

Circular enclosures of clay plastered with mud or lime were found to contain potsherds, ash, etc. One enclosure in RGP 4, assignable to Period II A, two enclosures in RGP 2, in Period II C levels, and four, in RGP 5, assignable to Period III, have been uncovered. A painted terrocotta figure of bull found at Rangpur is considered to be a cult-object similar to those from Mohenjo-daro. Significantly enough, no figure of the mother-goddess has been found at Rangpur. The method of the disposal of the dead is also not known. But burial, as a normal method of disposing of the dead, has been known from Harappa and Lothal. Hence the Harappans at Rangpur might have observed the same practice.

## I. Script

The vast majority of the writings on ephemeral materials like birch or papyrus, if any, at Harappa and Lothal and elsewhere, must have perished. Only seals and sealings of more durable material have survived the ravages of nature. Rangpur has not yielded any seal or sealing. This does not necessarily mean that Indus seals and the pictographic writing were not known to the people. In fact, they must have been literate because of the identity of their culture with the Harappa. Rangpur, on the other hand, has yielded a large number of potsherds bearing graffito-marks. Most of them come from Periods II C and III levels but a very few from Periods II A and II B levels. Elsewhere in Gujarat a few Indus symbols are found inscribed on a convex-sided bowl, e.g., from Rojdi, a site contemporary with Rangpur II B. The graffiti on potsherds of Periods II B, II C and III show that some of the Indus symbols underwent modifications in course of time. Figs. 47-49 show the graffiti and the corresponding Indus signs.

## J. Tools of the Middle Stone Age

'Series II' is a name recently given by Dr. Sankalia and other archaeologists to certain types of tools which are distinct from the Early Stone Age implements in respect of material, technique and size. They comprise blades, blade-scrapers, scrapers and points. At Nevasa and Navdatoli burins are also found. In the Pravara basin tools of Series II are found in the second and third gravel-beds[1] and in the Narmada, especially in the Kachra-Nalla, in the third gravel-bed. In both the cases any intrusion of the industry is ruled out. In accordance with the latest terminology Series II tools are regarded here as tools of the Middle Stone Age. The later lithic industry of the black soil is said to be the blade-industry for which mainly chalcedony is used.

Middle Stone Age tools have of late been reported from other parts of India too. In Gujarat itself, at Rangpur and Kotada, a nearby village on the banks of the eastern channel of the Bhadar river, several such tools were found in the basal gravel comprising coarse sand and pebbles of trap and jasper (fig. 11; pl. XIV), while in the upper gravel-bed consisting of fine sand microliths are noticed. The original upper gravel is very much denuded near the Rangpur mound and only patches can be seen here and there. But the section near Devalio, 10 miles upstream, is undisturbed. The slightly-cemented lower gravel yields such tools and the upper one microliths. Mention has already been made of the microliths found in the excavated trenches in the gravel-bed consisting of fine sand corresponding to the upper gravel of the river-section (above, p. 32). Apparently, the Late Stone Age (microlithic) industry succeeded the Middle Stone Age one. In the Rangpur-Kotada region the blade-element is predominant in the Middle Stone Age

[1] *Ancient India*, no. 12 (1956), p. 39.

# RANGPUR : *CLIFF-SECTION OF RIVER BHADAR LOOKING NORTH-WEST*

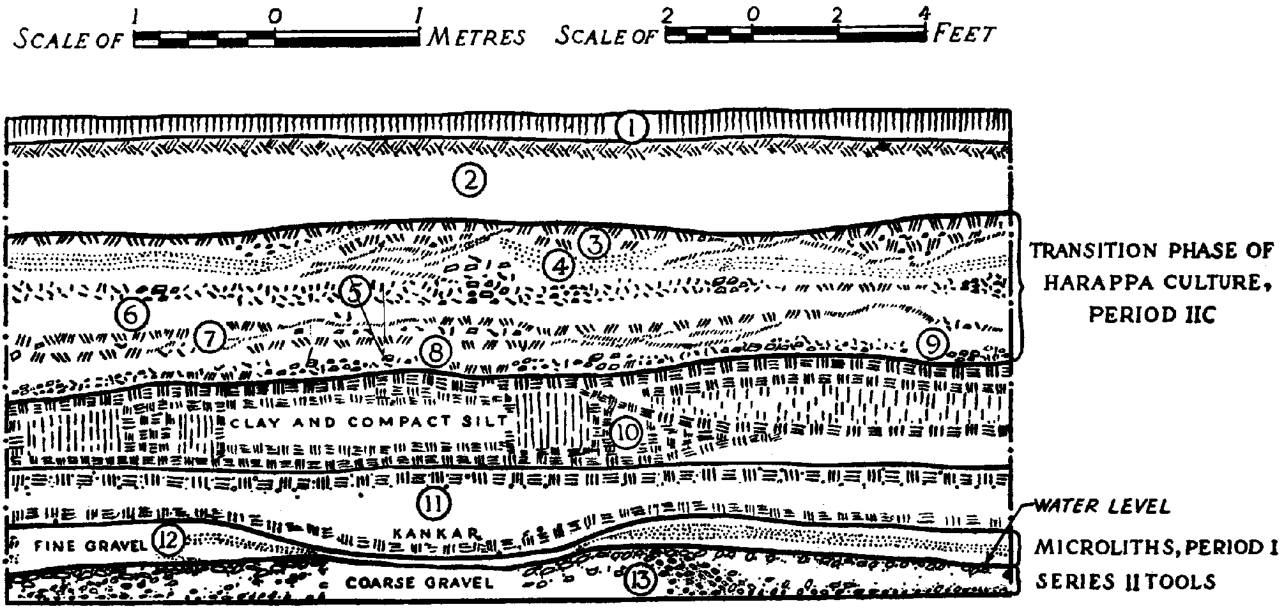



Fig. 11

industry and some of the scrapers are also prepared on blades. Secondly, the burin is not found but a couple of Levalloisian flakes are noticed. Pressure-flaking technique is also observed. In calling a tool a blade or blade-scraper the criterion has been the length of the flake when compared with its breadth. Functionally speaking, it is used for cutting-purposes. Blades have a prominent mid-ridge and a few are retouched for use as blade-scrapers. End- and side-scrapers have also been prepared from simple rectangular or asymmetrical flakes. The scrapers of Periods II C and III were elaborately retouched. Points form a group by themselves among the Middle Stone Age tools. Some of them are tanged and must have been hafted as in the case of backed blades.

Fig. 12; pl. XV

1. **Jasper, red.** Back provided by the meeting of the two natural cleavage-planes. Backed blade.

2. **Jasper, green.** Baek intentionally prepared by steep flaking. Cutting-edge crudely retouched in one direction. Backed blade.

3. **Chert, grey.** Back intentionally and neatly prepared. Cutting-edge finely retouched in both directions. Blade.

4. **Jasper, grey, thin flake.** Neatly retouched, convex working-edge. Backed blade.

5. **Jasper, pink.** Blade with a prominent median ridge and notched from undersurface. One edge serrated due to use. Tip broken. Blade-scraper.

6. **Chert, mottled.** Tanged point on a thick blade. Tip broken. Blade.

7. **Chert, banded, pink and greenish.** Thick flake with a prominent median ridge on the front, steeply flaked on one margin and retouched on the other. An insipient tang noticed on the side of the bulb of percussion.

8. **Jasper, grey.** Thick flake with a prominent ridge as above but without a prominent point or tang; might have served as side-scraper. Blade-scraper.

9. **Jasper, grey.** Rectangular flake with a prominent notch near the point, concavities on either side towards the opposite end perhaps to facilitate hafting. Point.

10. **Chalcedony, pink.** As above, but prepared on a very thin flake with one side finely retouched. Point achieved by a transverse cut. Parrot-beaked point.

11. **Jasper, grey.** Sub-triangular point of a Levallois flake.

12. **Chert, brown.** Asymmetrical flake with a thin platform inclined at an oblique angle. Serrated due to use. Scraper.

13. **Jasper, dark pink.** As above, but slightly retouched on one margin. Scraper.

14. **Jasper, brown.** As above, but rolled. Scraper.

15. **Jasper, green.** Ovoid flake with a thin platform. Slightly retouched on sides and end. Side- and end-scraper.

16 and 17. **Jasper;** flakes slightly retouched. Scrapers.

## K. Microliths

Microliths, of different shapes and produced by various techniques, had a long life in India. The food-gatherers of the Late Stone Age and the chalcolithic food-producers used pigmy stone tools. The tools used by the last-named group should not be called microliths in the strict sense of the term. Small lithic implements survived in the Iron Age also right down to the early historic times. But the technique of tool-making and, consequently, typology and function differed from period to period and locality to locality depending on the nature of the raw material available and the stage of economic development attained by the people using

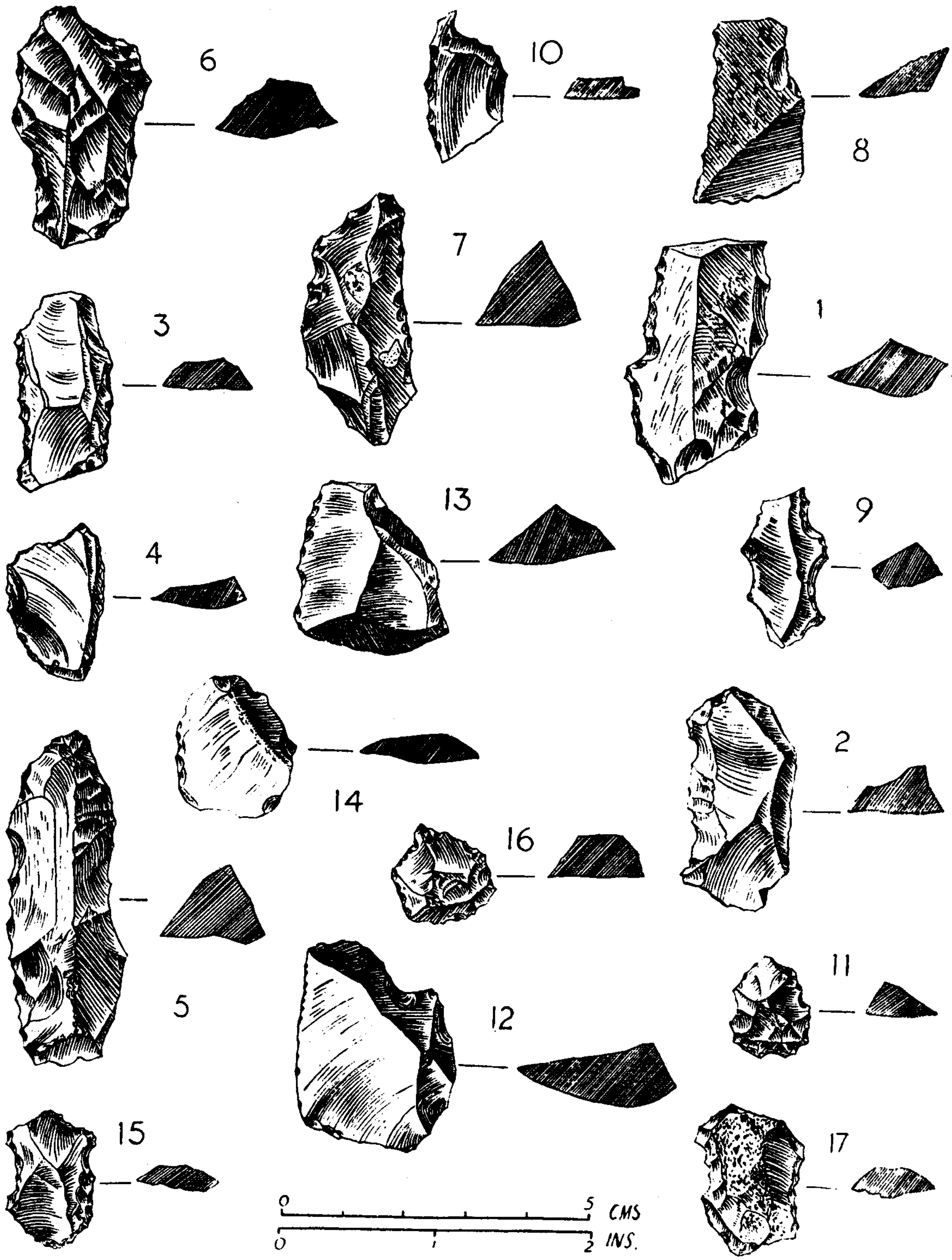



FIG. 12. *Tools of the Middle Stone Age*

microliths. These facts are borne out by the excavations at Rangpur and Machiala-Mota. Amreli, an early historical site near Machiala-Mota, has yielded microliths in the early Kshatrapa levels. In order to understand how the technique of making tools and their shapes varied from period to period there cannot be a better example than Rangpur. In Period I microliths with or without geometric forms but unassociated with pottery have been found in a gravel-lens, 9 in. to 1 ft. 6 in. thick, in the earliest levels of RGP 3, RGP 4 and RGP 7. They can be said to be more or less of the 'hunting-type'. Among the important types mention may be made of the triangle made on a thin flake, trapeze, arrow-head with shoulder, tanged point, scraper, awl and blade. Flakes and cores have also been found along with fragments of animal-bones which, however, cannot be identified. All the tools are fresh and only one of them is rolled. The microliths cannot, therefore, be considered as an intrusion.

In the succeeding Period, II B, people with a very highly-developed urban economy, in contrast with the primitive microlithic economy, settled down here. In addition to copper and bronze implements in use, the Harappa culture had its lithic appendage in the form of long and broad parallel-sided blades of chert mostly without any retouch. A new technique known as the 'crested-ridge guiding' technique is said to have been adopted in preparing tools. This consisted of an elaborate preparation of the core after removing the nodules, steep horizontal flaking from two sides alternately to produce a crested ridge with a series of weak points to help the removal of a long pilot blade vertically. Thereafter long parallel-sided blades could be removed from the core on a mass soale. Fine-grained chert was admirably suited for this purpose. Sukkur and Rohri in Sind supplied the raw material to Harappa, Mohenjo-daro and other towns in the Indus valley. Rangpur imported very few blades. Only one blade in chert was found in a stratified deposit in RGP 3. Two other blades of chalcedony are surface-finds. From Period II B comes a side-scraper in jasper and from Period II C a scraper. In Period III a large number of asymmetrical flakes of jasper crudely worked into side- or end-scrapers have been found. Except for a blade-flake there is no short or long parallel-sided blade. Owing to the non-availability of chalcedony in the neighbourhood of Rangpur parallel-sided blades were not produced. The solitary fragmentary blade found in Period III seems to have been imported. On the other hand, the people using the Lustrous Red Ware of Machiala-Mota as well as Gop (below, p. 187), another Late Harappan site in Kathiawar (fig. 4), did produce short parallel-sided blades following the same technique which the Harappans had adopted for taking out ribbon-flakes of chert. But owing to the small size of the pebbles long ribbon-flakes could not be produced. The occurrence of long flake-blades of chert at Maski[1] in late chalcolithic levels suggests that wherever a suitable material like chert was available long parallel-sided blades were produced even as late as the first millennium B.C. On the other hand, wherever other material such as chalcedony could be had, as at Navdatoli and Machiala-Mota, shorter parallel-sided blades were produced. At Rangpur and Devalio only small pebbles of jasper and agate were available. Hence the asymmetrical flakes were roughly worked into scrapers. The Rangpur people used long chert blades in Period II A. They imported the raw material, as it was not locally available.

The proportion of tools to flakes and cores is rather very high at Rangpur in all the Periods. Hence the finished products must have reached Rangpur from some neighbouring factory-site like Devalio, which is not more than 10 miles from Rangpur upstream the Bhadar river.

[1] B. K. Thapar in *Ancient India*, no. 13 (1957), p. 89.

## TABLE SHOWING THE FREQUENCY-DISTRIBUTION OF MICROLITHS, FLAKES AND CORES

| Period | Tool-type | RGP 1 | RGP 2 | RGP 3 | RGP 4 | RGP 5 | RGP 6 | RGP 7 | Total | Grand total |
|---|---|---|---|---|---|---|---|---|---|---|
| III | Scraper .. | 5 | 4 | .. | .. | 2 | 2 | .. | 13 | |
| | Point .. | 1 | .. | .. | .. | .. | .. | .. | 1 | |
| | Borer .. | .. | 1 | .. | .. | .. | .. | .. | 1 | |
| | Flake .. | 9 | 4 | .. | .. | 3 | 1 | .. | 17 | |
| | Core .. | 5 | 3 | .. | .. | 1 | 1 | .. | 10 | 42 |
| II C | Scraper .. | 1 | 1 | .. | .. | 1 | .. | .. | 3 | |
| | Blade .. | 1 | 1 | .. | .. | .. | .. | .. | 2 | |
| | Parallel-sided blade | .. | 1 | .. | .. | .. | .. | .. | 1 | |
| | Flake .. | 1 | 1 | .. | .. | 2 | .. | .. | 4 | 10 |
| II B | Parallel-sided blade | .. | 1 | .. | .. | 1 | .. | .. | 2 | |
| | Core .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 3 |
| II A | Blade .. | .. | .. | .. | 1 | .. | .. | .. | 1 | |
| | Parallel-sided blade | .. | .. | 2 | 1 | .. | .. | 2 | 5 | |
| | Flake .. | .. | .. | 4 | 2 | .. | .. | .. | 6 | |
| | Core .. | .. | .. | 5 | .. | .. | .. | .. | 5 | 17 |
| I | Scraper .. | .. | .. | .. | 3 | .. | .. | .. | 3 | |
| | Blade .. | .. | .. | 2 | 1 | .. | .. | 2 | 5 | |
| | Point .. | .. | .. | 1 | 1 | .. | .. | 2 | 4 | |
| | Borer .. | .. | .. | 1 | .. | .. | .. | 2 | 3 | |
| | Arrow-head .. | .. | .. | .. | 1 | .. | .. | 1 | 2 | |
| | Triangle .. | .. | .. | 1 | 1 | .. | .. | 1 | 3 | |
| | Trapeze .. | .. | .. | .. | 1 | .. | .. | 1 | 2 | |
| | Flake .. | .. | .. | 2 | 2 | .. | .. | 3 | 7 | |
| | Core .. | .. | .. | 2 | .. | .. | .. | 2 | 4 | 33 |
| | | | | | | | | | | 105 |

The geometric microliths of Period I must have been hafted on a wooden or bone frame for purposes of hunting, fishing, cutting or scraping. The chert blades of Period II A (ribbon-flakes) seem to have been used as domestic pen-knives. But how exactly the scrapers of Period III were used is rather difficult to say. Some of the very large scrapers may have been used individually and not hafted in a frame.

The microliths of Period I are essentially of the 'hunting-type' and only two geometric forms are noticeable, viz., a triangle and a crude trapeze. The lunate and crescent are conspicuous by their absence. The trapeze is not carefully retouched on all the margins.

*Type I:* triangle. Worked on thin flake and retouched on the chord. Wedge-shaped section helps hafting.

*Type II:* trapeze. Flake of medium size and thickness, laterally worked. Slightly larger than the normal trapezes of the Langhnaj industry. Not much of retouch for backing.

*Type III:* blade. Not parallel-sided; crested-ridge guiding technique not followed. Just a long flake used for cutting-purpose or retouched for being used as blade-*cum*-scraper. Thick flake with a median ridge worked into a point. *Type IIIa:* blade. Thin long flake. Sides almost parallel but the edges at the distal end curled. *Type IIIb:* blade-scraper. Thick or thin blade with steep flaking at the distal end to produce the working-edge for an end-scraper or retouched on one margin to produce a side-scraper. *Type IIIc:* point. Thick flake with a median ridge bimarginally worked to a point. Shoulder produced by notching.

*Type IV:* arrow-head. Thick flake bimarginally worked to a point and also a rudimentary tang.

*Type V:* borer. Thick flake snapped obliquely to a point and butt-end nicked for hafting.

*Type VI:* parallel-sided blade (ribbon-flake) of chert said to have been produced by alternate flaking in the crested-ridge guiding technique. *Type VIa:* long parallel-sided blade typical of the Harappan sites. Rest as above. *Type VIb:* Short parallel-sided blade of chalcedony and occasionally jasper. Traces of alternate flaking and low crested ridge available. *Type VIc:* pointed blade. Long flake pointed and curled at one end. Possibly crested guiding ridge technique adopted.

*Type VII:* scraper. Asymmetrical flake retouched on one or more margins and worked into side- or end-scraper. Three sub-types made out as follows: *Type VIIa:* side-scraper. Thick flake retouched on one margin to produce a side-scraper. *Type VIIb:* side- and end-scraper. Flake retouched on both margins and the end to obtain a side-and end-scraper. Thick bulb helps hafting. *Type VIIc:* discoid scraper. Margins and end worked into discoid scrapers.

*Type VIII:* thin asymmetrical flake occasionally retouched and battered due to use; occurs in all the Periods including pre-chalcolithic.

Fig. 13; pls. XVI and XVII A

1. Jasper, smoky. Thick flake of a trapezoid transverse section with a high median ridge bimarginally worked above shoulder-point from the upper surface, but inverse retouching from undersurface visible on one margin; vertical flakes removed from the working-platform for hafting. Borer; type V. Period I. (RGP 3, 9-191[1].)

2. Jasper, pink. Thick flake of a triangular section with a high median ridge and cortex retained at the butt-end; steep retouching from the undersurface on one margin and from the upper surface especially in the upper half; shoulder formed by notching. Point; type IIIc. Period I. (RGP 3, 9-66.)

3. Jasper, green. Flake with a triangular transverse section bimarginally worked to a point above the shoulder; retouched from upper surface on one margin and from the undersurface on the other; worked on both sides to produce a rudimentary tang; high median ridge reduced by ripple-flaking. Arrow-head; type IV. Period I. (RGP 4, 13-319.)

4. Jasper, green. Thin flake with a wedge-shaped transverse section; lateral margins blunted by steep flaking; working-edge, viz. the chord, battered due to use. Triangle; type I. Period I. (RGP 4, 13-101.)

5. Jasper, greenish. Thick flake with a rectangular section; bulb of percussion seen on undersurface; only one margin retouched on underside. Trapeze; type II. Period I. (RGP 4, 13-319a.)

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[1] RGP 3, 9-191 means trench RGP 3, layer 9, antiquity no. 191.

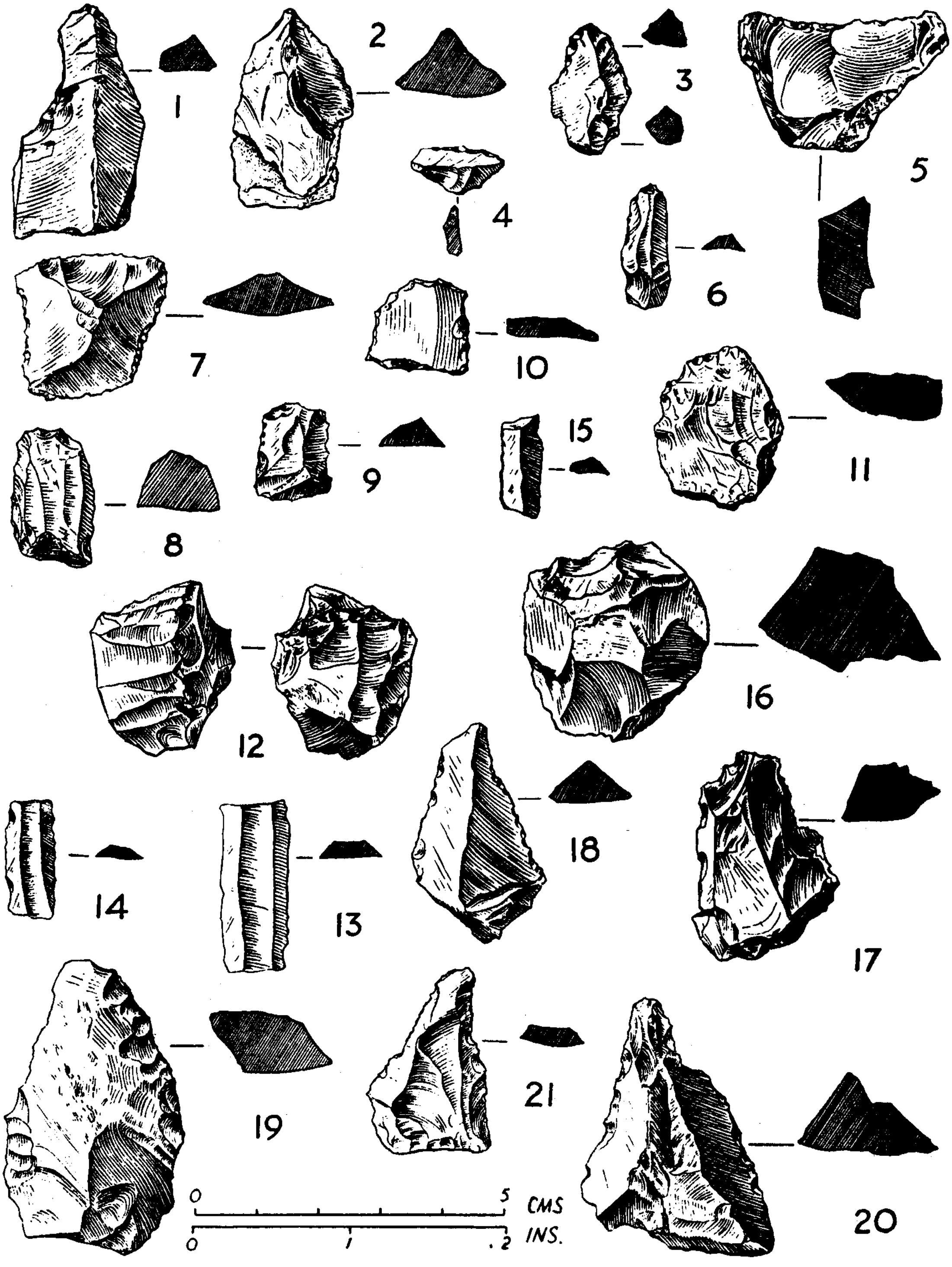



FIG. 13. *Microliths*

6. Jasper, green. Flake with a transverse trapezoid section, low median ridge and slightly-converging sides; primary flake-surface on concave undersurface; both edges retaining primary flake-cut, bulb of percussion at the distal end. Blade; type IIIa. Period I. (RGP 4, 3-5.)

7. Agate, tan-brown. Thick asymmetrical flake; primary flake cut with a diffused bulb of percussion on flat undersurface; prominent striking-platform almost at right angles to the flake-surface and sharp working-edges on three sides obtained by steep-flaking; lateral margins well and the distal end slightly retouched. Side- and end-scraper; type VIIb. Surface-find. (RGP 3, 1-46a.)

8. Agate, grey. Thick blade with a rectangular cross-section, the lateral margins retaining primary flake-cut; steep flakes taken at the distal end to produce a working-edge. Blade-scraper; type IIIb. Period I. (RGP 4, 13-292.)

9. Jasper, green. Blade with a triangular transverse section; secondary working on one margin; working-platform visible at the butt-end. Blade; type IIIa. Period I. (RGP 3, 9-231.)

10. Jasper, green. Asymmetrical flake with a marginal working-edge; distal end chipped due to use, thin flake with a low transverse section. Retouched by steep-flaking along the convex margin. Asymmetrical flake; type VIII. Period I. (RGP 4, 13-7.)

11. Chalcedony, translucent white. Flake with a discoidal working-edge chipped due to use; upper side retaining pebble cortex; discoidal margin retouched by low flaking except at the butt-end. Asymmetrical flake; type VIII. Period I. (RGP 4, 13-315.)

12. Jasper, pink. Fluted core with a trapezoid transverse section; two negative bulbs and prepared striking-platforms visible near points of impact; one of the platforms inclined almost at right angles to the flake-scar and the other at an acute angle; two crested ridges in two different planes formed at the intersection of flakes taken from three different platforms, of which two are clearly visible; the formation of the crested ridge not deliberate but accidental. Period I. (RGP 4, 13-197.)

13. Chert, light-brown. Thin flake with a trapezoid transverse section with one of the edges chipped due to use but both edges retaining primary flake-cut. Broken at both ends. Parallel-sided blade (ribbon-flake); type VIa. Period IIa. (RGP 3, 3-77.)

14. Chalcedony, translucent, white. Both edges chipped due to use; thin flake with a trapezoid section; broken at both ends. Short parallel-sided blade; type VIb. Surface-find. (RGP 4, 1-72.)

15. Chalcedony, transluscent, white. Both edges chipped due to use; thin flake with a triangular transverse section; edges retaining primary flake-cut; broken at both ends. Short parallel-sided blade; type VIb. Surface-find. (RGP 3, 1-73.)

16. Chert, brown. Pebble-cortex slightly visible; discoid; negative scars of steep flaking visible. Core; surface-find. (RGP 3, 1-46.)

17. Agate, chocolate. Thick flake with a trapezoid cross-section; diffused bulb of percussion near the platform almost at right angles to the flake-surface; marginal steep flaking from upper surface. Asymmetrical flake; type VIII. Surface-find. (RGP 3, 1-73.)

18. Jasper, smoky. Both edges chipped due to use; blade with a triangular transverse section; margins tapering to a point and finely retouched; high median ridge seen running from the thick butt-end to the distal end; platform at an acute angle to the primary flake-surface. Blade-scraper; type IIIb. Period II B. (RGP 2, 37-662.)

19. Jasper, green. Convex margins slightly battered due to use; large leaf-shaped flake with a plano-convex transverse section; almost flat primary flake-surface. Diffused bulb of percussion at the butt-end. Working-edge finely retouched, the opposite edge found retaining primary flake-cut; original pebble-cortex visible on the upper side. Side-scraper; type VIIa. Period III. (RGP 1, 4-541.)

20. Quartz, translucent creamy. One edge slightly chipped due to use; large thick flake of triangular transverse section; edge tapering to a point; both margins retouched; tool broken along the line of fracture. Borer; type V. Period III. (RGP 6, 15-602.)

21. Chalcedony, translucent white. One of the edges chipped due to use and the other retaining fresh flake-cut; flake with a trapezoid transverse section and high median ridge; tapering to a point and curled at the distal end; bulb of percussion at the butt-end diffused; platform at right angles to the main flake-surface visible; both margins worked by retouching. Flake-scar and ripple-marks on the upper surface near the bulb. Side-scraper; type VIIa. Period III. (RGP 2, 7-103.)

Fig. 14; pl. XVII C

22. Jasper, greenish. One of the edges battered due to use; thin flake with a triangular transverse section with a striking-platform at the butt-end, wherefrom low oblique flakes have been removed; both edges retouched on the upper side. Side-scraper; type VIIa. Period III. (RGP 2, 7-35.)

23. Jasper, deep-green. Portion of the circular working-edge retaining primary flake-cut, rest of it chipped due to use; thin ovoid flake retaining portions of the striking-platform at the butt-end retouched all along the circular margin by steep flaking except at the butt. Discoid scraper; type VIIc. Period III. (RGP 1, 4-25.)

24. Agate, light grey. One of the working-edges retains fresh flake-cut seen on the working-edge on the inner side; other edges battered; flake with a triangular transverse section; steep flakes removed from the platform in the centre, low bulbous portion visible on the undersurface; all the three margins retouched on the upper surface; triangular flake with truncated angles. Side- and end-scraper; type VIIb. Period II C. (RGP 5, 13-376.)

25. Jasper, deep green. Both the working-edges chipped due to extensive use; flake with a wedge-shaped transverse section and high ridge; steep flakes removed from the striking-platform running at an acute angle to the main flake-surface; the distal end and one side retouched. Side- and end-scraper; type VIIb. Period III. (RGP 1, 10-114.)

26. Chert, brown. Working-edges with fresh flake-cut; flake with a triangular transverse section with high ridges; two margins retouched. Side-scraper; type VIIa. Period III. (RGP 2, 5-28.)

27. Jasper, greenish. Working-edge chipped due to constant use; thin trapezoid flake with a trapezoidal section. Side-scraper; type VIIa. Period III. (RGP 1, 10-87.)

28. Chalcedony, transluscent white. Both working-edges chipped due to use; blade with a trapezoid transverse section and high median ridge; tapering at the distal end and damaged at the butt; bulb and working-platform not visible. Point; type IIIc. Period III. (RGP 1, 9-339.)

29. Chalcedony, translucent white. Both margins chipped due to use; trapezoid transverse section; bulb of percussion at the butt-end. Parallel-sided blade; type VIb. Period III. (RGP 2, 10-567.)

30. Chert, variegated. Fresh flake cut seen on both edges; blade tapering to a point and curled at the distal end with a trapezoid transverse section and diffused bulb of percussion at the butt-end. Blade; type VIc. Period III. (RGP 2, 3-42.)

31. Chalcedony, transluscent white. One of the margins chipped due to use; discoid core with a trapezoid section and high median ridge; negative scars of removed small vertical flakes visible near the butt, one of the margins retouched by steep flaking. Core, probably used as discoid scraper. Period III. (RGP 1, 12-108.)

32. Jasper, green. Large core with deep, negative scars of vertical and oblique flakes removed; striking-platform almost at right angles to the vertical plain. Core. Period III. (RGP 2, 10-8.)

33. Jasper, green. Core with a trapezoid transverse section; pebble-cortex visible on upper surface; negative scars of asymmetrical flakes visible. Core. Period III. (RGP 1, 3-3.)

34. Jasper, green. Fluted core with a rectangular transverse section; parallel flake-scars and prepared striking-platform inclined at right angles to the scar-surface visible. Fluted core. Period III. (RGP 1, 2-5.)

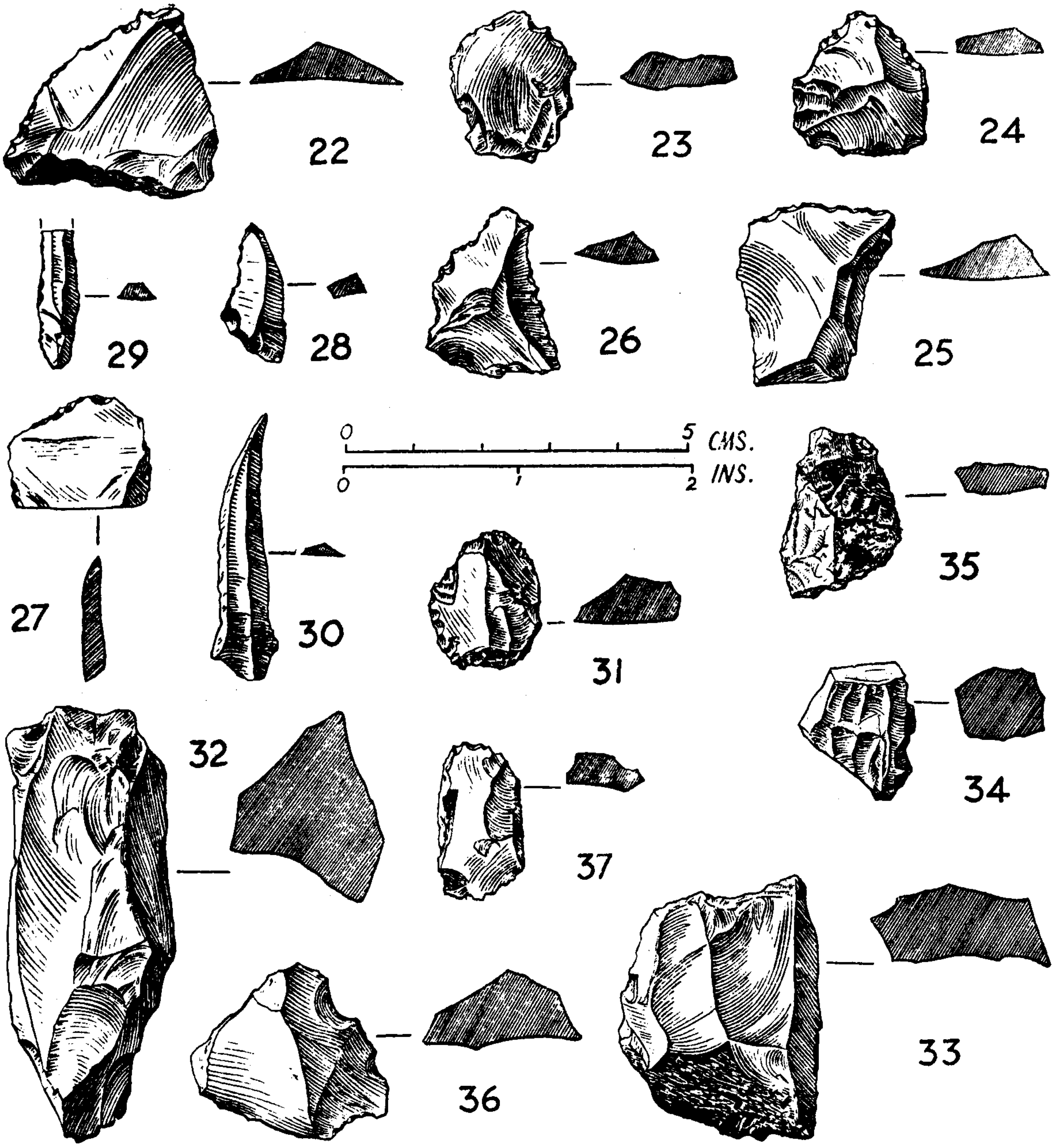



FIG. 14. *Microliths*

35. Chalcedony, transluscent white. Flake with trapezoid section retaining pebble-cortex; ripple-marks of low flaking visible on both surfaces. Asymmetrical flake. Period III. (RGP 1, 7-126.)

36. Jasper, green. Crescentric ends chipped due to use; flake with a plano-convex transverse section; negative scars of steep flaking from upper surface at the nearer end and from inner surface at the distal end visible. Asymmetrical flake. Period II C. (RGP 1, 13-164.)

37. Jasper, pink. Thick flake with almost a triangular transverse section and high median ridge, deep negative scars of flaking visible. Asymmetrical flake. Period II C. (RGP 1, 16-211.) Not illustrated on pl. XVII C.

Pl. XVII B

38. Chert, tan-brown. Large flake with a prominent bulb of percussion and a prepared platform at right angles to the main flake-surface. Flake. Period II C. (RGP 5, pit sealed by 21-601.)

39. Chert, tan variegated. Large core with flake-scars; platform and negative bulbs not visible. Surface-find. (RGP, 758.)

## L. The pottery

### (i) *Introduction*

Most of the observations made by the previous excavators regarding the Harappan affinity or the lack of it in the pottery of Rangpur was based on the painted designs and forms of ceramic wares recovered from those areas and occupation-levels which are now considered as representing a degenerate phase or the Transition Phase of the Harappa culture. Vats and Ghurye saw in them certain features similar to those of the Harappa Ware, while Dikshit mentions features which were different. However, the typical Harappa Ware was recovered from RGP 3, RGP 4 and RGP 7 in the present excavation. The discovery of Indus seals at Lothal, where pottery identical with Rangpur II A pottery has been found, have removed all doubts regarding the Harappan affinity in Rangpur. In Period II A, the red and buff wares, both painted and plain, are similar in composition, and shapes. They are wheel-made and the use of a dégraissant such as sand or lime for tempering the finely-levigated raw clay can be seen in many cases. The pots came from the kiln pink or red and, only very rarely, buff. The greenish tinge of the vessels is more due to over-burning. The coarse grey ware is, however, different in shapes, texture and colour from the thick sturdy red and buff wares. Another ware of considerable importance found associated with the Harappa red and buff wares was the micaceous red ware with a smooth surface.

The majority of the vessels are painted with one or two simple horizontal bands but they cannot be included under the term 'painted pottery', which implies an effort on the part of the artist to satisfy an aesthetic sense in the form of a straight pictorial, symbolic or some other pleasing pattern. It further presupposes the preparation of the surface to be painted by a wash or slip covering the body and the drawing of the designs. It will be seen presently how this requirement was met with in Lothal A and to some extent in Period II A but not in II B at Rangpur. In Period II A the pots are carefully treated with a slip and painted with pleasing designs. The buff ware is not due to any other cultural influence but due to the lime-contents of the local clay (below p. 135).

The earthenware found in layers 17 to 36 of RGP 2 and layers 19 to 45 of RGP 5 is assigned to Period II B, as distinguished from Period II A, not only because of the poorer fabric of the majority of the vessels in the former case, but also due to the fact that a couple of ceramic types, such as the goblet and beaker, were discarded in Period II B. There cannot be any time-lag between Periods II A and II B, because most of the characteristic Harappa types, such as the perforated jar, bowl with a handle, dish, convex-sided bowl, dish-on-stand, thick storage-jar, etc., continued to be in use in Period II B. Though painting was not carefully executed, the colour-scheme and motifs remained the same. Even paring as a technique of decoration continued. It should, therefore, be concluded that Period II B was a continuation of Period II A.

The subsequent Period, II C, is noted for a variety of stylized motifs in painting. What is more important is the evolution of new ceramic forms from the Harappan

types. A superficial study of the pottery may at first sight lead one to suspect an intrusion of a new culture from elsewhere in Period II C, but a careful comparison of pottery-forms, fabric and painted motifs of Period II C with those of Periods II A and II B leaves no doubt as to the continuity of Harappan traditions but gradually introducing changes in shapes and preferring simpler designs to the sophisticated ones. The deer in outline and bull with 'x'-shaped horns are just two new motifs.

The report of the Archaeological Chemist (below, pp. 133-37) confirms that the pottery of Period II B, though well-fired, was coarser in fabric. According to him the slip 'has little covering-power and all the striations of the wheel are clearly visible'. Sherd no. 25 examined by him in the red ware of Period II B is one such example. It is said to be similar to sherd no. 16, which is coarser than others in fabric. Coarse-to-fine sand was used as a dégrassaint. Again in the case of sherd no. 28 from Period II B, the Chemist says: 'the body-material of this sherd is, however, slightly coarser than that of sherd no. 2, but the technique of potting, finishing and firing does not show any variation'. The bulk of the pottery of Period II B is similar in composition to sherd no. 28. As already pointed out, the technique of potting, firing, etc., was the same in Periods II A, II B and II C. Speaking of sherd no. 30, which also comes from Period II B, he says that it 'is coarser than sherd no. 29, but the condition of firing appears to have been similar.' Due to weathering, not much can be said about the nature of surface-finish of this sherd.

The pots of the buff ware are made of a calcareous clay which is rather coarse when compared with the fine buffish alluvial clay used in making pots of red ware. Due to the presence of lime the red colour of oxidized iron did not develop and the clay burnt to buffish yellow colour. 'There is no doubt that this yellowish buff ware shows a marked difference from the red ware'. The presence of the buff ware at Lothal and to a greater extent at Rangpur is due to no other reason than the presence of lime in the form of *kankar*-particles in clay encountered in the lower levels of the flood-plain. According to the Chemist the pots did not turn buff when fired.

The shining red colour of the Lustrous Red Ware (sherd no. 34) is said to be due to a slip of finely-levigated red ochre and surface-burnishing. It is suggested by the Chemist that when the surface was in green state it was subjected to burnishing (i.e. 'wet-smoothed') with pebbles of haematite which left a fine powder of iron oxide securely adhering to the surface. Thereafter the pot was fired.

The painting is said to have been executed after firing, as the black pigment does not show any evidence of sintering and does not stick firmly to the red surface.

On the whole the coarseness of fabric in Periods II B and II C and burnishing in Periods II C and III are evident.

There are quite a number of vessels of coarse fabric in Period II C. But sturdy vessels of superior fabric are not negligible. One may be inclined to argue that the occurrence of an inferior variety of the red ware along with the superior ware may be one of the intrusive elements of a new culture in Rangpur II C. But it must be noted that the characteristic Harappa forms as well as the evolved ones are found both in the sturdy and coarse varieties. It is further observed that simultaneously with the evolution of new ceramic forms, the bulk of the vessels became coarse owing to the non-availability of fine alluvial clay in sufficient quantity. Only a limited number of vessels could be prepared from the better-quality clay in Periods II C and III, but an effort was made to give a good look to others by producing a lustre on the vessels to make good the poor composition.

Another important feature of Period II C is the technique of burnishing vessels in order to produce a lustrous red surface either as an alternative to paring or in addition to it. The Harappa and evolved types, such as the dish-on-stand, the dish, the bowl with stud-handle, the cup and the bowl with blunt-carinated shoulder, are all burnished. Marks of the burnisher can be seen on several of them.

In so far as the painted motifs are concerned, some of the designs known to the Harappans, such as the deer, fish-scale, oblique lines, hatched diamonds and rectangles, spirals, fronds and suspended loops, continued to be painted in Periods II C and III also. Among animal-motifs the peacock was painted in Period II B and the deer in a stylized form in II C and III. The duck and the bull are among the new motifs noticed in Period II C. Painting in successive horizontal registers is, however, lacking at Rangpur, but it is noticeable at Lothal. The black-and-red ware vessels were painted in white on the interior with wavy lines in groups.

Period III is noted for the exuberance of the Lustrous Red Ware, which made its first appearance in Period II C. A red slip was applied on the surface burnished before firing. The ceramic shapes evolved from those of Period II B underwent further changes in Period III. The blunt-carinated bowl, dish-on-stand and high-necked jar took their final shape now. Another important ware which became popular is the black-and-red ware. Only two bowls are encountered in Periods II A and II B each; the number gradually increased in Period II C. The shapes of the vessels in black-and-red ware closely follow those of the micaceous red ware and Lustrous Red Ware in each Period, e.g., bowls are convex-sided in Period II A, straight-sided in II B, blunt-carinated in II C and concavo-convex-sided in III, closely following the shapes of the bowls in the red ware.

At Lothal, too, the black-and-red ware is found in considerable quantities throughout the occupation-deposit. It can be said, therefore, that the inverted-firing technique was known as early as Lothal A and Rangpur II A. The ceramic shapes noticed in the micaceous red ware are also repeated in the black-and-red ware.

The main types in both these wares are the convex-sided bowl, the bowl with a stud-handle and the small jar with a bulbous body, all of which undergo change in forms in Periods II C and III. The surface also has a lustre in both the cases. It is, therefore, evident that vessels of the same form could be subject to two different techniques of firing, producing red ware or the black-and-red ware depending upon the conditions of firing (cf. fig. 15). At Lothal too, the unity of forms in the micaceous red ware and the black-and-red ware vessels is a noteworthy feature. The small-necked jar (fig. 15, *1a*) is a typical Harappan shape occurring in the sturdy fabric, the black-and-red ware and the micaceous red ware. It is highly probable that there was a local population using the black-and-red ware and the micaceous red ware even before the Harappans came to Gujarat.

Paintings are executed in black over a lustrous red slip in Period III. Apart from the usual geometric and naturalistic designs, such as hatched diamonds, loops, fish-net and fish-scale, others such as the stylized deer, bull and row of birds are painted. Preference is for oblique and wavy lines in groups.

Fig. 15

*Type 1.* Jar with a small neck, bulbous body and pedestal-base in red ware. *Variant 1a* is in the black-and-red ware.

*Type 2.* Jar with a flaring mouth, carinated shoulder and rounded base. *Variant 2a* is in the black-and-red ware.

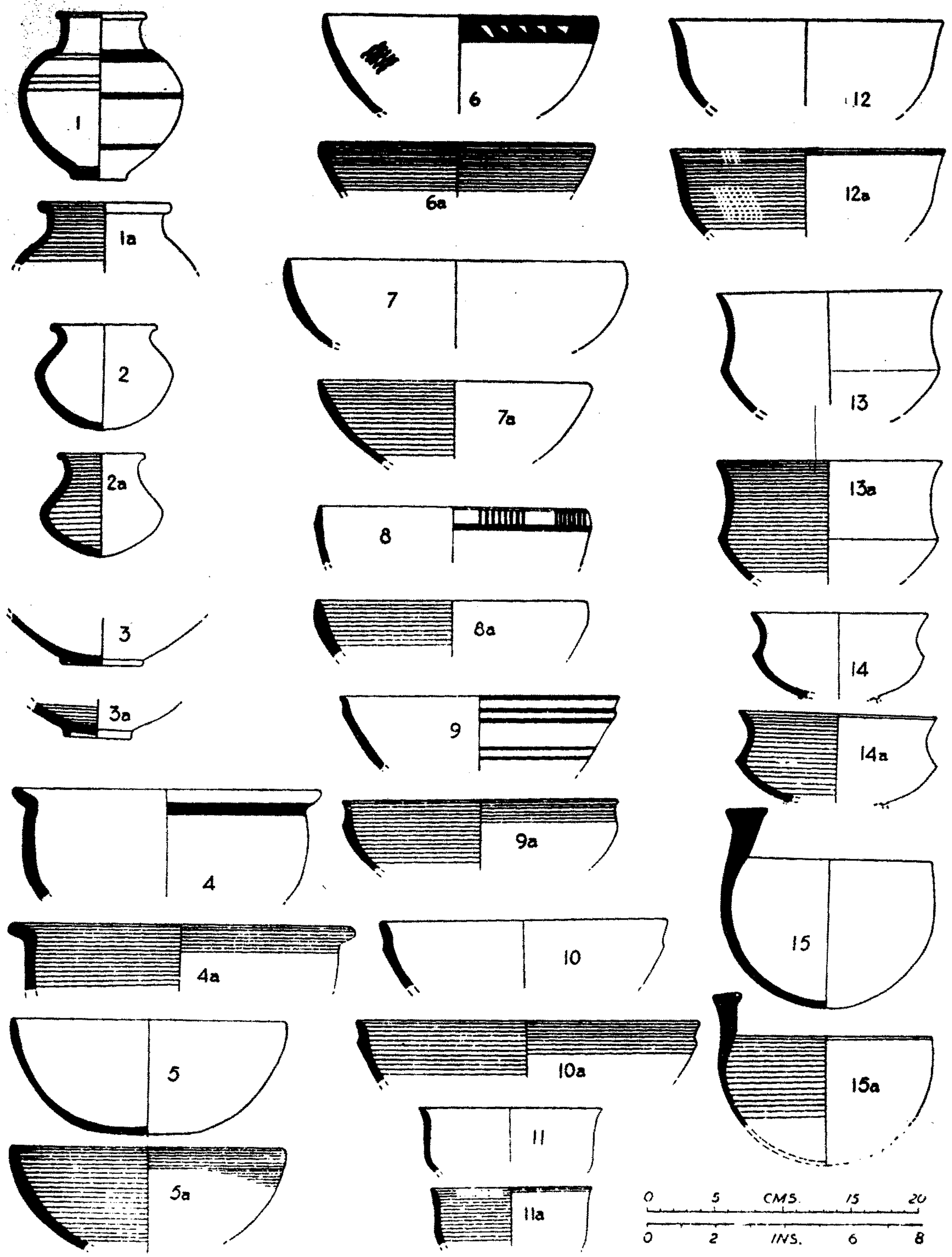



FIG 15. *Black-and-red ware and corresponding red ware from all Periods*

*Type 3.* Footed base of a jar probably with a bulbous body in red ware. *Variant 3a* is in the black-and-red ware.

*Type 4.* Bowl with a projected rim in micaceous red ware. *Variant 4a* is in the black-and-red ware.

*Type 5.* Convex-sided bowl with a flat base in red ware. *Variant 5a* is in the black-and-red ware.

*Types 6 to 8.* Convex-sided bowls with minor variations in the rim in micaceous red ware. *Variants 6a* to *8a* are in the black-and-red ware.

*Types 9* and *10.* Bowls with a flanged shoulder in micaceous red ware. *Variants 9a* and *10a* are in the black-and-red ware.

*Types 11* and *12.* Bowls with a blunt-carinated shoulder in red ware. *Variants 11a* and *12a* are in the black-and-red ware.

*Types 13* and *14.* Bowls with a sharp-carinated shoulder in the Lustrous Red Ware. *Variants 13a* and *14a* are in the black-and-red ware with a lustre.

*Type 15.* Bowl with a stud-handle in micaceous red ware. *Variant 15a* is in the black-and-red ware.

### (ii) *Evolution of the Harappa Ware*

Before describing in detail the degeneration of the Harappa Wares in Period II B and their evolution in Period II C culminating in the emergence of the Lustrous Red Ware in Period III, we may note briefly the features common to Periods II A and II C.

Important ceramic types of Period II A, such as the dish-on-stand, small globular jar with a footed base, thick storage-jar, convex-sided bowl, dish, jar with a bottle-neck and bowl with a handle, are found to be in use even in the last days of Period II C. They, however, underwent a gradual evolution in form and survived in III (figs. 16 and 17). At Lothal also a similar evolution in ceramic forms from Lothal A to Lothal B has come to notice. It is further substantiated by the evolution of other objects, such as terracotta balls, weights and even seals.[1] Harappan ceramic types, such as the goblet and beaker, which were in limited use in II A, almost disappeared in the last days of II B, a fate which befell the perforated jar and terracotta triangular 'cakes' in II C.

The typical Harappa red ware of fine fabric was still in use in Period II C and a considerable number of vessels have a thick slip and smooth surface as in earlier times. But there is almost an equal number of vessels in red ware of coarser fabric, the exterior of which is not rendered smooth. Thus, it is clear that Harappan ceramic types occur both in fine as well as in coarse fabric in Period II C. This is true of the ceramic types evolved from typical Harappan forms. Nearly seventy per cent of the total number of ceramic types of the red ware, with or without lustre, closely conform to the Harappa types. Hence typologically Rangpur II C wares must be considered as evolved from Rangpur II B and not the result of an instrusion of an altogether new culture.

Fig. 16

*Types 1 to 5.* They clearly suggest a gradual evolution from the jar with a small neck, bulbous body and flat base in Period II A to one with an elongated neck, ovoid profile and rounded base in Period III.

*Types 6 to 8.* In them can be seen the evolution of the storage-jar, especially in the rim which was originally flat but gets clubbed in later times.

*Types 9 to 17.* They show the evolution of the convex-sided bowl of Period II A into a blunt-carinated one in Period II C and a sharp-carinated one in Period III.

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[1] *Indian Archaeology 1958-59—A Review* (1959), pl. XVIII-A.

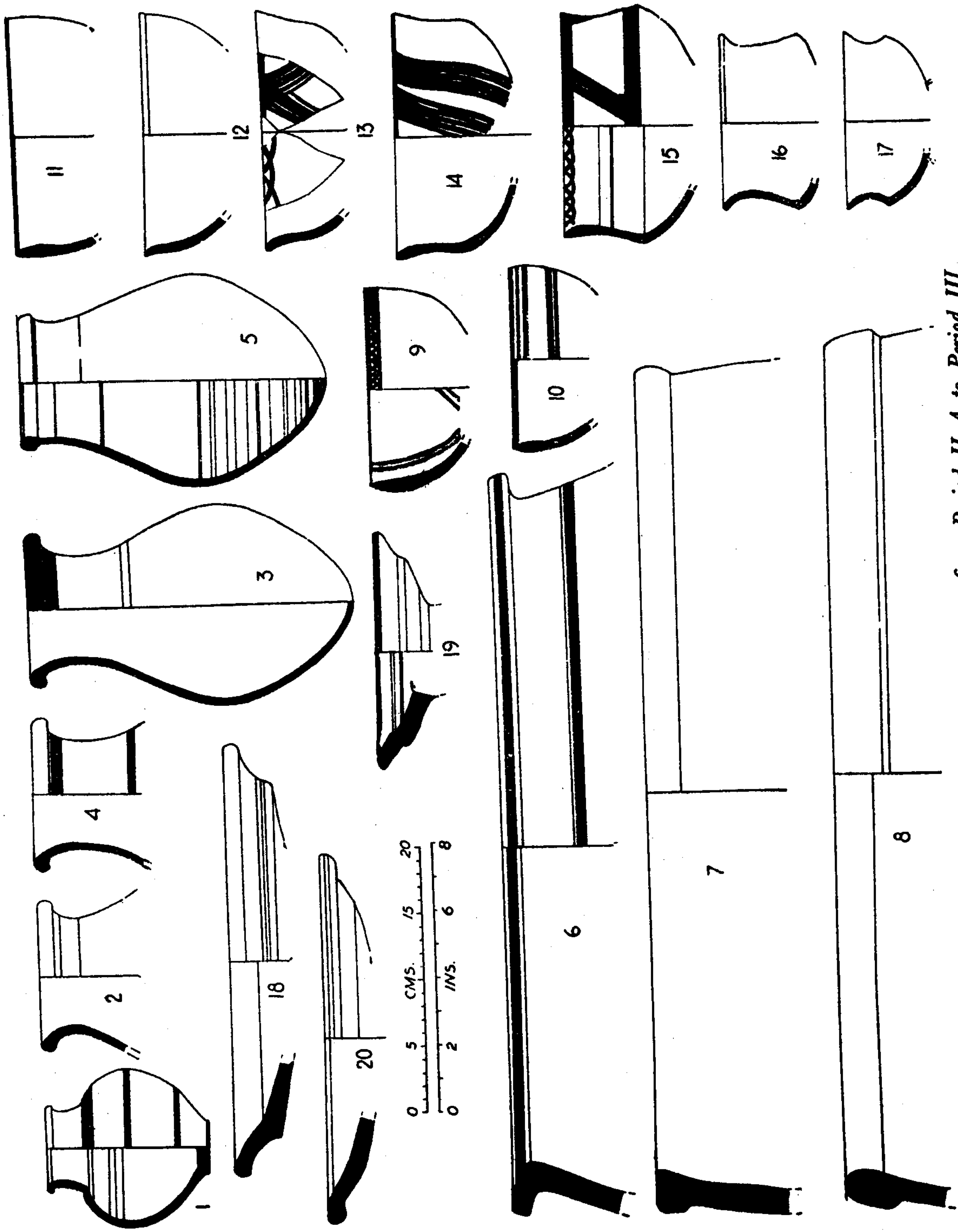



FIG. 16. *Evolution of pottery-types from Period II A to Period III*

*Types 18 to 20.* They reveal the gradual disappearance of the carination and the projection of the rim ultimately developing into a beaded rim.

Fig. 17

*Types 21 to 23.* They are deeper dishes showing a tendency towards lesser carination at the shoulder.

*Types 24 to 28.* They are dishes-on-stand with a tendency towards shorter stands and deeper dishes ultimately developing into bowls-on-stand.

*Types 29 to 31.* They are stemmed bowls which are more or less dimunitive forms of deep dishes-on-stand.

*Types 32 to 34.* They show the elongation of the stud-handles of the bowls—a distinctive ceramic form of the Harappa sites in Gujarat.

*Types 35 to 40.* The evolution of the convex-sided bowls into sharp-carinated bowls in the black-and-red ware can be seen in them.

While considering the new technique of burnishing the surface of the vessels it must be noted that even in Period II A a couple of vessels have a shining red surface owing to paring and the slip is also sometimes deep-red (pl. XVIII A, *3*). But burnishing and producing a shining red colour on the vessels became popular in Period II C (pl. XXI B, *4*). As for the painted designs, excepting one or two, e.g., the deer in outline, row of conventionalized birds and bull with 'x'-shaped horns, there is no new motif in Period II C which was not known to the people of Lothal A or Rangpur II A and II B. The most commonly painted designs of Period II C, such as wavy lines, row of hatched diamonds, hatched triangles, derived leaf-patterns, hatched rectangles (fig. 33) and loops with fronds, occur earlier in Period II A and later in Period III also. The deer-motif was known all through, but it was stylized in Period II C. The peacock was also stylized in Lothal B as well as Rangpur II B. Another interesting feature of Lothal B and Rangpur II C is that certain motifs such as the peacock, wavy line, etc., which occur in conjunction with various other geometric patterns in successive panels at Harappa, Mohenjo-daro and Lothal A, occur here individually. Elaborate painting of the vessel-surface with several motifs in the mature phase gives place to limited painting with fewer designs in Periods II C and III.

It would be wrong to conclude from the occurrence of a couple of evolved pottery-types or new painted designs that Rangpur II C represents a new culture. This would tantamount to ignoring the bulk of the ceramic types which are identical with, or evolved from, the Harappa types. This argument applies to the colour-scheme and painted designs as well. In form, composition and decoration, the pottery of Period II C can be definitely said to be evolved from the Harappa Ware of Period II B. Instead of overcrowding the vessel-surface with several designs, one or two simple patterns came to be painted in II C. The schematization and repetition of designs are still noticeable in II C (fig. 33, *12* and *15*). The evolution of forms and surface-treatment noticed in Rangpur II C culminated in Rangpur III with the emergence of a fully-developed culture distinguished by its chief ceramic ware, viz. the Lustrous Red Ware. In deciding whether a culture is a new one introduced from elsewhere or an evolution from an earlier one, one has to ascertain whether the earlier ceramic forms, fabric and painted motifs are in a prepondering majority or not. With this as the criterion Rangpur III is considered as an evolution from II C, which itself is evolved from II B.

### (iii) *Period II A*

RED WARE.—The most striking ceramic ware of Period II A is a heavy sturdy ware of superior fabric, pink or red in colour in the section and on surface. The word

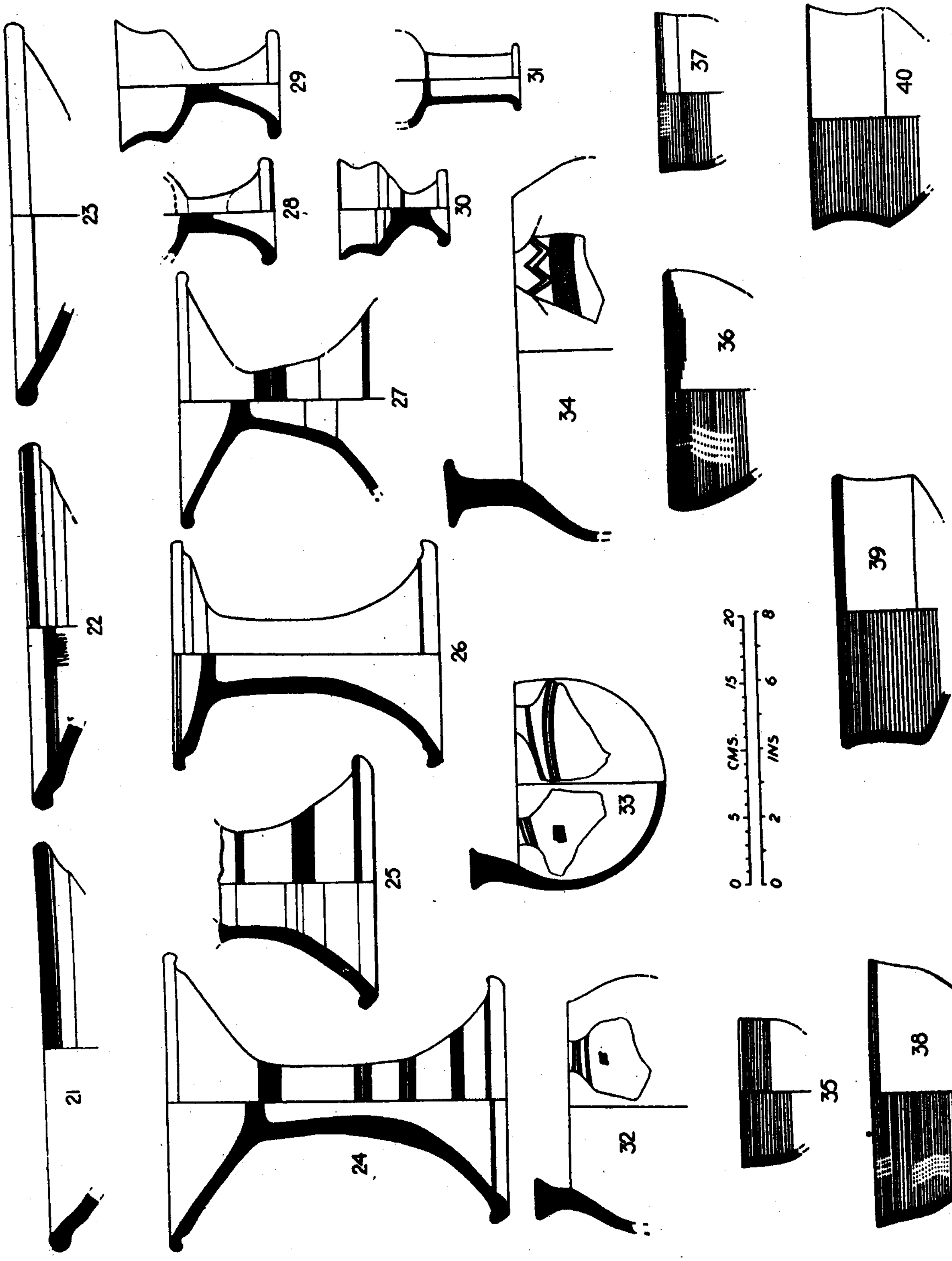



FIG. 17. *Evolution of pottery-types from Period II A to Period III*

'superior' is used here to indicate the use of a finely-levigated clay in making the vessels which are well-fired, resulting in a sturdy ware. Almost all the vessels have a smooth surface and are painted in black over red. They do not break easily and produce a ringing sound when struck. A dégraissant like sand is used with a fine clay which stands high temperature. The vessel-surface is not porous as is the case with the coarse grey ware. A variety of the red ware group is treated with a fine micaceous slip. It is a thin ware found in a limited quantity. The bowl with a stud-handle, convex-sided bowl and jar with a flaring rim are its common types. The following characteristic Harappa types are found in the red ware in Rangpur II A.

1. Small jar with a small neck, beaded rim, globular body and footed base. Fig. 18, *15*; cf. HP., LXX *24*[1].
2. Jar with a beaded rim and bulbous body. Fig. 18, *4* and *6*; cf. FMD., LXIV, *24*[2].
3. Large storage-jar with thick walls and a flat rim. The size of the vessel and the thickness of the walls vary. Fig. 19, *22*; cf. FMD., LXII, *50*.
4. Small jar with a flaring rim, convex profile and a micaceous red mat-surface. Fig. 19, *23a*; cf. HP., LXX, *23*.
5. Dish with a projected rim and carinated shoulder. Fig. 22, *67*; cf. HP., LXX, *11*.
6. Dish with an incurved or internally-beaded rim. Fig. 22, *68*; cf. FMD., LVI, *55*.
7. Dish-on-stand; the stand and the dish are separately prepared and luted together, but the joint is not visible. The cleavage is invariably at the point of junction. Fig. 23, *72*; cf. FMD., LVIII, *1*. The purpose of a hole in the centre of the dish-on-stand of large size is not understood. Fig. 23, *76*. A variant of the dish-on-stand is a bowl-on-stand.
8. Basin with a projected beaded rim, blunt-carinated shoulder and flat base. Fig. 22, *62*; cf. FMD., LXI, *80*.
9. Jar-stand. Fig. 23, *79*; cf. FMD., LVIII, *23*.
10. Goblet with an elongated base. Fig. 23, *83a* and *b*; cf. FMD., LVI, *26* and *31*.
11. Beaker. Fig. 23, *82*; cf. FMD., LVI, *1*.
12. Lid with a knob in the interior. Fig. 23, *89*; cf. FMD., LVII, *11*.
13. Cylindrical perforated jar. Fig. 19, *28*; cf. FMD., LXII, *28*.

Buff ware.—It is called buff ware owing to the buff colour of the surface and core of the vessels. Normally the clay used is fine and the vessels thick and sturdy. The buff ware of Rangpur and Lothal is, however, dissimilar to the Amri buff ware, which is rather creamy in colour and the fabric of which is thin. The slip is much thicker than is the case with Rangpur buff ware. In the case of vessels of the Jhukar culture the fabric is coarse though thick at times. Hence the Rangpur buff ware should not be confused with the Amri or Jhukar buff wares. The shapes are analogous to those in the red ware. In fact, some of the red ware vessels of Rangpur have a buff slip or patches of buff along with red owing to differential firing. They are often painted in chocolate or pinkish colour. The only type exclusive to the buff ware is a jar with a flaring rim, bulbous body and pinched ear (fig. 24, *95*). It is found at Lothal also.

Coarse red ware.—The coarse red ware meant for rough use occurs in a limited quantity. The clay used for making the vessels is not levigated, and a grit, such as dung

[1] HP., LXX, *24*=Madho Sarup Vats, *Excavations at Harappa* (Delhi, 1940), II, pl. LXX, *24*.

[2] FMD., LXIV, *24*=E.J.H. Mackay, *Further Excavations at Mohenjo-daro* (Delhi, 1938), pl. LXIV, *24*.

or powdered pottery, is added to the clay. The vessels are fairly porous and are not usually treated with a slip. The jar with a flaring rim and bowl with a nail-headed or beaked rim are common types (fig. 24, *104* and *109*).

Coarse grey ware.—The coarse grey ware was similarly meant for rough use such as cooking. It is hardly noticeable in the Indus valley but is profuse in Kathiawar. The vessels are rendered porous by the use of grit and the surface is rough, slipless and rarely burnished. A common type in this ware is the jar with a flaring rim and convex profile (fig. 25, *115*). Coarse grey vessels are generally decorated with incised designs. In one case finely-levigated clay is used for a dish with a projected rim and carinated shoulder so much so that it should be treated as a fine grey ware. It is burnished and sturdy (fig. 25, *119*). Similar dishes are found at Lothal and Harappa.

The bulk of the vessels from Rangpur is plain as at Harappa and Mohenjo-daro. Painting is mostly confined to the vessels of superior fabric, viz. the red and buff wares. Very few sherds of coarse red ware are painted. Normally, a black colour is used for painting over a red slip. But chocolate or pink is also resorted to for painting over buff backgrounds. Rarely red is used on light-red or pink (fig. 26, *A2 and A5*). Small jars with a convex profile and footed base (fig. 18, *15 and 16*) and bowls of medium size (fig. 22, *63*) are treated with a red or buff slip or with both all over the vessel-surface. The repetition of designs in successive panels one below the other, noticeable on some Harappa vessels, has not been noticed on the Rangpur vessels except the hatched diamonds. This is one of the reasons why Rangpur II A is regarded to represent a late phase of mature Harappa culture. But the same motif, e.g. peacock or hatched diamond or interlacing of circles, is repeated in a horizontal register in Periods II B and II C. Schematization is also noticed in Period II C. Generally speaking, horizontal bands, loops and fine zigzag lines are painted on jars, and suspended loops on dishes. But several other designs, such as vertical row of hatched diamonds (fig. 26, *A24*), loops with fronds (fig. 26, *A22*), horizontal bands (fig. 26, *A19*) and multiple intersecting loops (fig. 26, *A4*), encountered in Rangpur II A, occur at Harappa also. Among the naturalistic motifs, fish-scale (fig. 26, *A19*) and fish-net (fig. 26, *A27*) may be mentioned. Another interesting feature of painting on Rangpur II A and II B vessels is the bichrome effect produced by the use of more than one slip further emphasized by horizontal bands painted in black or pink at the junction of two slips (fig. 18, *15*). The lower half of the vessels is treated with a slip different from the one used for the upper half and the two different slips are demarcated by painting at the junction with one or more horizontal bands.

*Red ware*

Fig. 18

*Type 1.* Thick jar with a splayed grooved rim and bulbous body. From late level of Period II A.

*Type 2.* Bulbous jar of medium thickness with a flaring rim. With micaceous slip and dull-red. From late level of Period II A.

*Type 3.* Jar with a bulbous body and sharp projected rim. Red slip disappeared. From early level of Period II A; found in Period II B also.

*Type 4.* Bulbous jar with a beaded rim and short neck,painted in horizontal band in chocolate on the exterior. From late level of Period II A. *Variant 4a*, with a raised neck. Painted in four black horizontal bands over red on the shoulder. From early level of Period II A.

*Type 5.* Jar with a wide mouth and out-turned rim. Slip disappeared. From early level of Period II A; found in Period II B also.

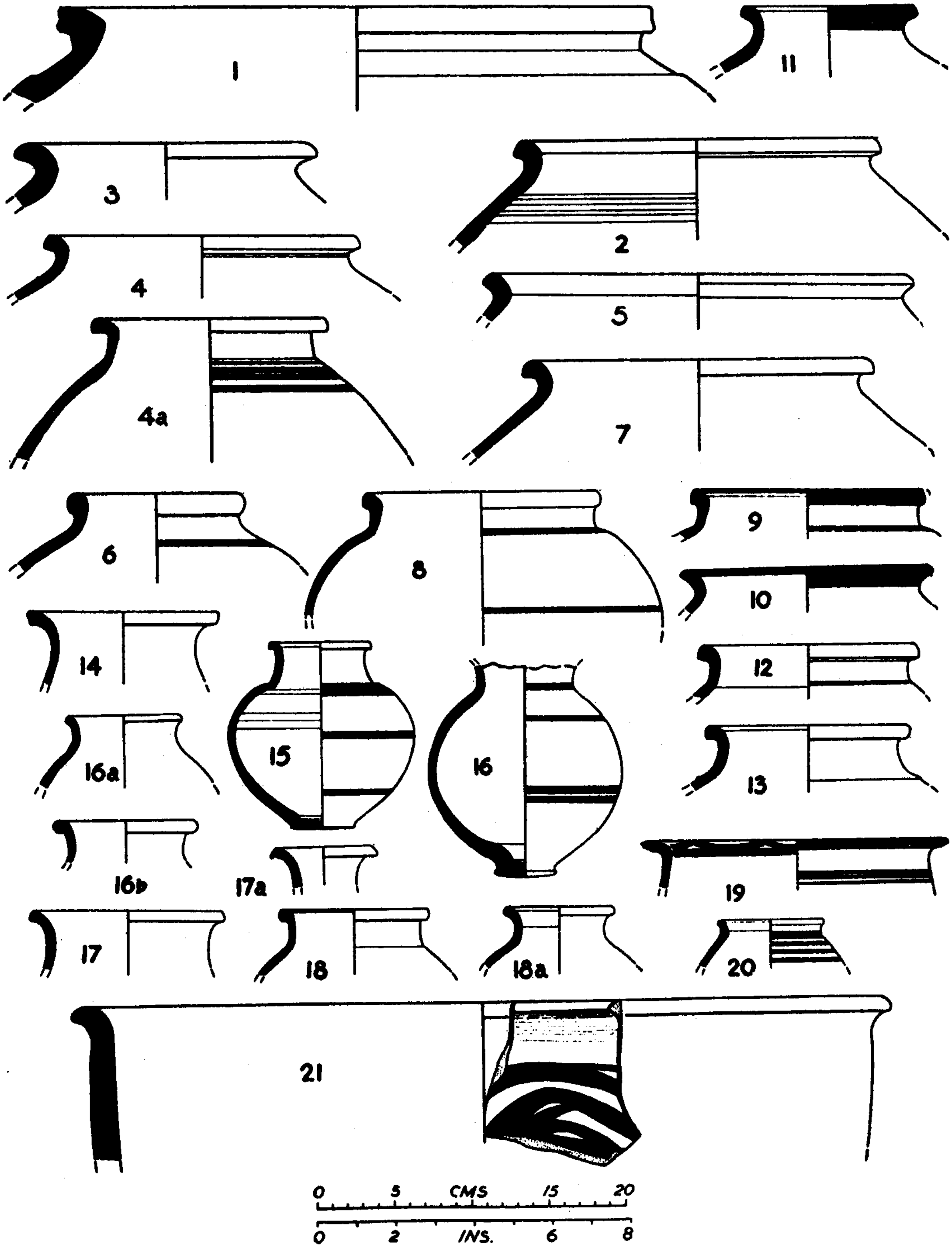



FIG. 18. *Red ware, Period II A*

*Type 6.* Sturdy jar with a thick beaded rim, raised neck and bulbous body. Fine smooth surface, incised lines on the rim. Painted in horizontal chocolate bands over red. From early level of Period II A; found in Period II B also.

*Type 7.* Jar with a flaring but slightly-beaked rim and bulged profile. Buff slip. From the earliest level of Period II A.

*Type 8.* Small jar with a raised neck, slightly-beaked rim, globular body and thin walls. Painted in black horizontal bands on a buff slip on the neck. An example of bichrome ware. Surface smooth. From middle level of Period II A.

*Type 9.* Small jar with a slightly-beaked rim and raised neck. Painted at the rim with a thick black band over a red slip. From early and middle levels of Period II A.

*Type 10.* Jar with a wide mouth and sharp flaring rim. Painted in thick black band over red on both surfaces of the rim. From middle level of Period II A.

*Type 11.* Jar with a splayed projected rim. Has thick walls, painted in black over red below the rim. From late level of Period II A.

*Type 12.* Jar with a beaded rim and raised neck. Chocolate band on a pink slip on the shoulder. From early level of Periood II A.

*Type 13.* Jar with a concave neck, beaked rim and flanged shoulder. Painted on both surfaces of the rim in chocolate bands over pinkish slip. Black band on the shoulder. From late level of Period II A.

*Type 14.* Jar with a slightly out-turned rim and raised neck. Treated with a buff slip. From late level of Period II A.

*Type 15.* Small jar of thin, sturdy fabric in bichrome ware with a beaded rim, ledged neck, globular body and disk-base. Painted in chocolate horizontal bands in groups of two at the shoulder. A pink slip applied on the belly and shoulder and a buff slip near the base. From middle level of Period II A; found in II B as well. Pl. XVIII A, *1*.

*Type 16.* Jar with a flaring rim, globular body and pedestal-base. Painted in horizontal bands at the neck, shoulder and belly. An example of overall treatment of the vessel-surface. From middle level of Period II A. Pl. XVIII A, *2*. *Variant 16a*, with a raised neck. From middle level of Period II A; occurs in Period II B also. *Variant 16b*, with a beaded rim. From middle level of Period II A.

*Type 17.* Jar with a sharp out-turned rim and raised neck. Thin ware; slipless. From late level of Period II A. *Variant 17a*, with a narrow neck and pink slip. From late level of Period II A.

*Type 18.* Jar with a raised neck, beaded rim and bulged profile. Slip disappeared, but surface smooth. From early level of Period II A. *Variant 18a*, with a short neck and treated with a red slip. From middle and late levels of Period II A.

*Type 19.* Jar with a sharp projected rim, painted externally in black horizontal bands at the rim and shoulder. Internally rim painted with suspended loops below horizontal bands. From middle level of Period II A.

*Type 20.* Miniature jar of thin fabric with a flaring rim and bulbous body. Painted on the shoulder in chocolate parallel bands over a buff slip. From middle level of Period II A.

*Type 21.* Jar of medium thickness with a wide mouth, slightly-everted rim and almost straight sides. Painted in thick black wavy lines below a horizontal band at the shoulder. Smoky core and red micaceous slip. From late level of Period II A.

Fig. 19

*Type 22.* Sturdy jar with a long neck and projected flat rim. Buff slip. From early level of Period II A. Pl. XVIII B, *3*.

*Type 23.* Jar with a sharp flaring rim. Treated with micaceous red slip. Painted in black bands at the shoulder. From early level of Period II A; found in Period II B also. *Variant 23a*, small

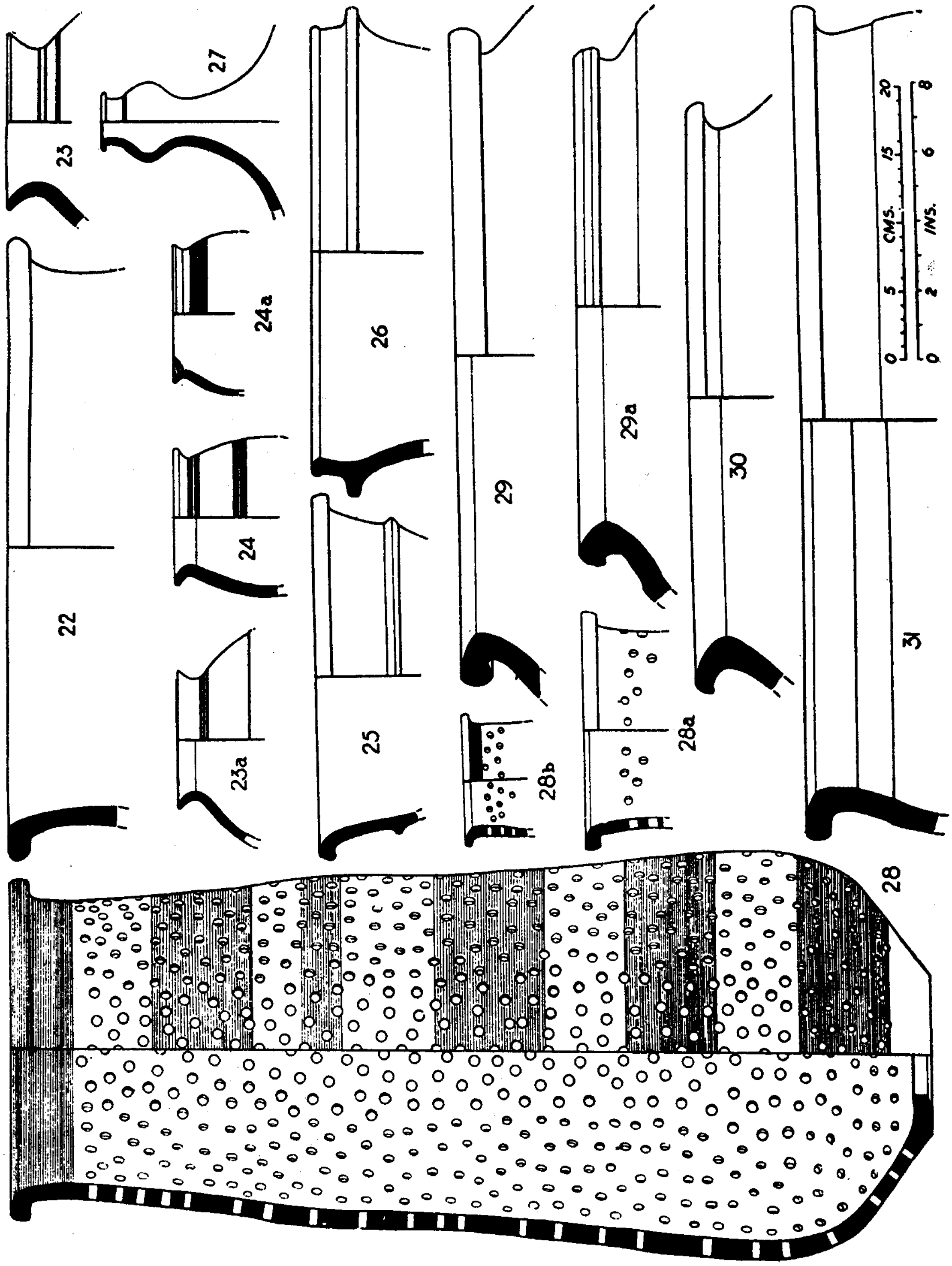



FIG. 19. *Red ware, Period II A*

jar with a flaring rim and bulbous body. Painted in thin horizontal black bands over red at the shoulder and belly. From late level of Period II A. Pl. XVIII B, *12*.

*Type 24*. Jar with a short flaring rim and pear-shaped body. Painted on the exterior with horizontal black bands. Micaceous red fabric. Slip flaked off. From middle level of Period II A. *Variant 24a*, painted in horizontal bands in black over a smooth micaceous red surface. From early level of Period II A.

*Type 25*. Sturdy jar with a beaked rim and flanged shoulder. From middle level of Period II A; occurs in Period II B also.

*Type 26*. Thick sturdy jar with almost straight sides and a flange at the shoulder. From middle level of Period II A.

*Type 27*. Double-pot built one over the other and connected by a hollow cylinder. The lower one, which is broken, must have been quite large. Rim of the upper one beaked; body bulbous. Treated with buff and red slips. From late level of Period II A. Cf. specimens from Jorwe and Kot Diji. Pl. XXIX D and E.

*Type 28*. Huge cylindrical perforated jar with a splayed rim and straight sides; a large hole at the bottom also. Buff and red slips merge imperceptibly without any line of demarcation. Perforations uniform. Use of the vessel not known. From early level of Period II A; occurs in Period II B also. Pl. XIX A. *Variant 28a*, smaller in size but with a projected rim and red slip. From late level of Period II A. *Variant 28b*, smaller in size and painted on the neck. From late level of Period II A.

*Type 29*. Thick sturdy jar with a splayed, beaked rim and convex profile. Reddish slip and smooth surface. From late level of Period II A. *Variant 29a*, with a flanged shoulder. From middle level of Period II A.

*Type 30*. Thick jar with a projected beaked rim and convex profile. Red slip. From early level of Period II A.

*Type 31*. Thick sturdy jar with a splayed rim and straight walls, used for storage-purposes. Red slip. From early level of Period II A.

Fig. 20

*Type 32*. Jar with a thick beaded rim flanged internally. Treated with a buff slip. From early level of Period II A.

*Type 33*. Sturdy storage-jar with a flat rim. Painted with three horizontal chocolate bands over buff and pink slips producing bichrome effect. From early level of Period II A; found in Periods II B and II C also.

*Type 34*. Sturdy thick storage-jar with a heavy, splayed and beaded rim and flanged shoulder. Treated with a fine crimson slip. From late level of Period II A; found in Period II B also. *Variant 34a*, painted in black bands on the exterior of the rim and shoulder and with suspended loops on the interior surface of the rim. From middle level of Period II A.

*Type 35*. Jar with a splayed rim and slightly convex profile. Painted with chocolate horizontal bands over pinkish slip. From late level of Period II A. Pl. XVIII A, *4*.

*Type 36*. Storage-jar with a splayed beaked rim and slightly-convex profile. Painted in black over light-red slip. Pl. XVIII A, *5*.

*Type 37*. Sturdy jar with a splayed projected rim and ledged shoulder painted with a thick horizontal black band over a red slip. The rim is also painted. Smooth surface. From middle and late levels of Period II A.

*Type 38*. Sturdy jar with a splayed and beaded rim. Painted in chocolate over buff on the rim. From late level of Period II A.

*Type 39*. Jar with a projected rim and slightly-convex profile. Medium thickness. From late level of Period II A; occurs in the earliest level of Period II B also.

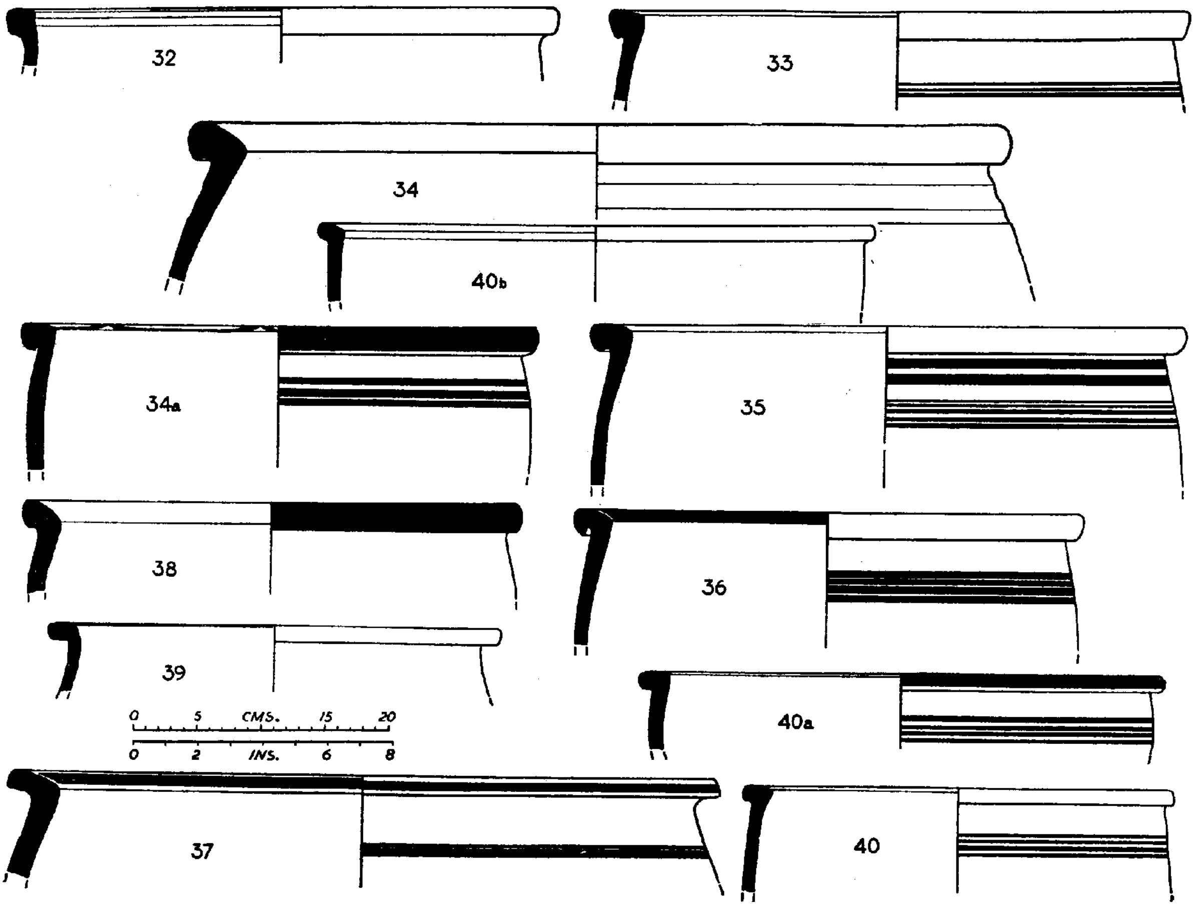



FIG. 20. *Red ware, Period II A*

*Type 40.* Jar with a wide mouth, flat rim and almost straight sides. Painted with light-black bands over red. From middle level of Period II A. *Variant 40a,* similarly painted but with a beaded rim. From early level of Period II A.

Fig. 21

*Type 41.* Jar with a beaded rim. Painted at the rim and shoulder with thick horizontal black bands over red. Thick slip. From early level of Period II A; occurs in Period II B also.

*Type 42.* Bowl with a beaked rim. No slip. From late level of Period II A.

*Type 43.* Bowl with a beaked rim and thick straight sides. Fine slip. From middle level of Period II A.

*Type 44.* Bowl with a flat rim, painted with a thick black horizontal band over red. Rim painted internally with strokes in black over red. From early level of Period II A.

*Type 45.* Bowl with a wide mouth, flat rim and slightly-receding sides. Grooved at the neck. Surface treated with a buff slip. From early level of Period II A.

*Type 46.* Bowl with a flat projected rim, convex profile and smooth surface. From early level of Period II A.

*Type 47.* Bowl with a projected rim and slightly-ledged shoulder. From the earliest level of Period II A.

*Type 48.* Bowl with a flat beaded rim. From late level of Period II A; found in Period II B also.

*Type 49.* Large thick convex-sided bowl with a sharp rim. Treated with chocolate and pink slips producing a bichrome effect. From Period II A to Period II C.

*Type 50.* Convex-sided bowl of medium size with a slightly-thick rim. Painted in black over red with horizontal bands on the inner surface of the rim and belly and on the exterior near the rim and base. From late level of Period II A. Pl. XVIII B, *11.*

*Type 51.* Small convex-sided bowl with a disk-base. From late level of Period II A. Pl. XVIII B, *15.*

*Type 52.* Convex-sided bowl painted in black over red in zigzag lines between two horizontal bands on the exterior of the rim and two vertical bands on the interior. From early level of Period II A.

*Type 53.* Convex-sided bowl with horizontal bands painted on both the surfaces of the rim. Smooth surface. From early level of Period II A.

*Type 54.* Convex-sided bowl; shallow. Painted with horizontal bands in black over red on both the interior and exterior. Treated with a fine micaceous red slip. From middle level of Period II A.

*Type 55.* Convex-sided bowl with a sharp rim and smooth surface, painted with two horizontal bands on exterior and a diamond-design on the interior. From late level of Period II A.

*Type 56.* Miniature convex-sided bowl. Painted externally and internally with black horizontal bands on a crimson background. From late level of Period II A.

*Type 57.* Convex-sided bowl with a smooth red micaceous surface painted internally with small hatched diamonds in black. From late level of Period II A; occurs in Period II B also, when the diamonds are larger in size.

*Type 58.* Bowl with a flaring pointed rim. Painted with groups of vertical lines in black above horizontal bands below which there are suspended loops. From middle level of Period II A.

*Type 59.* Basin of medium size in thick fabric with a nail-headed rim and slightly-convex sides. From middle level of Period II A.

*Type 60.* Sturdy basin with a flat base and tapering sides. From middle level of Period II A.

*Type 61.* Large basin with an out-turned, beaked rim, carinated sides and, most probably, flat base. From middle level of Period II A; occurs in Period II B also.

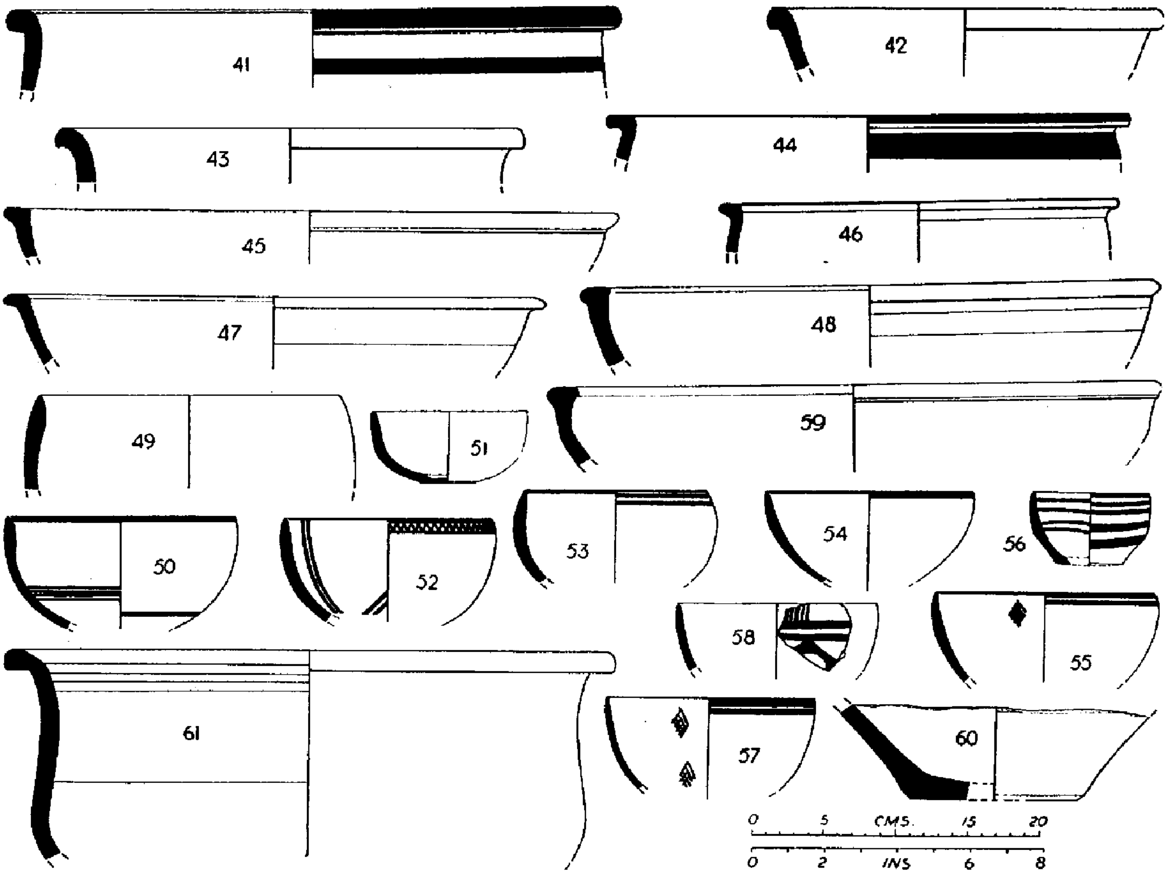



FIG. 21. *Red ware, Period II A*

Fig. 22

*Type 62.* Basin with a beaked rim, carinated shoulder and flat base. From late level of Period II A. Pl. XVIII A, *6*. *Variant 62a,* of medium size with a projected rim. From late level of Period II A. *Variant 62b,* with a projected rim and carinated shoulder. From early level of Period II A.

*Type 63.* Basin with an obliquely-cut rim and convex sides. Painted with groups of four horizontal black bands over light-red at the rim and shoulder. Fabric sturdy and surface well-treated. From late level of Period II A.

*Type 64.* Basin of small size with a flat rim and thick convex sides. Painted with black horizontal bands below the rim and at the base. Exclusively found in red fabric. From late level of Period II A.

*Type 65.* Basin with an out-turned, beaded rim and carinated shoulder. From early level of Period II A.

*Type 66.* Large basin with thick walls and a flat rim. Rough surface. From late level of Period II A.

*Type 67.* Shallow dish with a projected rim and prominent carinated shoulder. Slip flaked off. From late level of Period II A. *Variant 67a,* with a reddish slip. From middle level of Period II A. Pl. XVIII B, *14*. *Variant 67b,* with a projected but slightly raised rim. Slip flaking off. From middle level of Period II A. *Variant 67c,* painted in black over deep red with loops suspended from horizontal bands. From late level of Period II A. *Variant 67d,* with a thick raised, projected rim and thick walls; closely pared on the interior. Thick red slip. From middle level of Period II A. Pl. XVIII B, *7*. *Variant 67e,* with a less pronounced carination and thin walls, but deep. From early level of Period II A. *Variant 67f,* a small dish with a projected rim. Painted in black over red on the rim with black loops and dots in between; dots on the interior of the base also seen. From middle level of Period II A.

*Type 68.* Dish with an internally-beaked rim. Sturdy and well-fired. Treated with a buff slip on the exterior and a red one on the interior. Painted on the exterior of the rim with a chocolate band over a buff slip, and on the interior with loops between horizontal bands in black over red. Base also painted internally with parallel horizontal black bands. Bichrome effect seen on the rim. From early level of Period II A; occurs in Period II B and the earliest level of Period II C also. *Variant 68a,* with a nail-headed rim. Fine sturdy ware. From early level of Period II A. *Variant 68b,* with a highly-weathered surface. From early level of Period II A.

*Type 69.* Large dish deeper than types 67 and 68, but with a nail-headed rim. Painted with black bands on the interior and exterior over a red slip. From early level of Period II A. *Variant 69a,* with an out-turned rim. Light-red slip on the interior only. From early level of Period II A. *Variant 69b,* large deep dish with an internally-beaded rim. From early level of Period II A.

Fig. 23

*Type 70.* Dish with a splayed projected rim and slightly-carinated shoulder. Painted on both surfaces including the rim and at the base in black over red. From early level of Period II A. *Variant 70a,* with a projected rim; shallow. Buff-slipped; core reddish. From late level of Period II A. *Variant 70b,* with a nail-headed rim. Thin ware. From early level of Period II A.

*Type 71.* Platter or dough-plate with a raised edge. Painted with thick black concentric band and wavy lines. Sturdy red ware. From late level of Period II A.

*Type 72.* Stand of a dish-on-stand. Stem hollow, and base with a raised edge. Painted with black horizontal bands over the stem. Marks of luting and paring visible. Treated with a thick red slip. From middle level of Period II A. Pl. XVIII A, *3*. *Variant 72a,* with a slightly-raised edge on the base. From late level of Period II A. *Variant 72b,* painted with black horizontal bands over red on the raised edge of the base. From early level of Period II A.

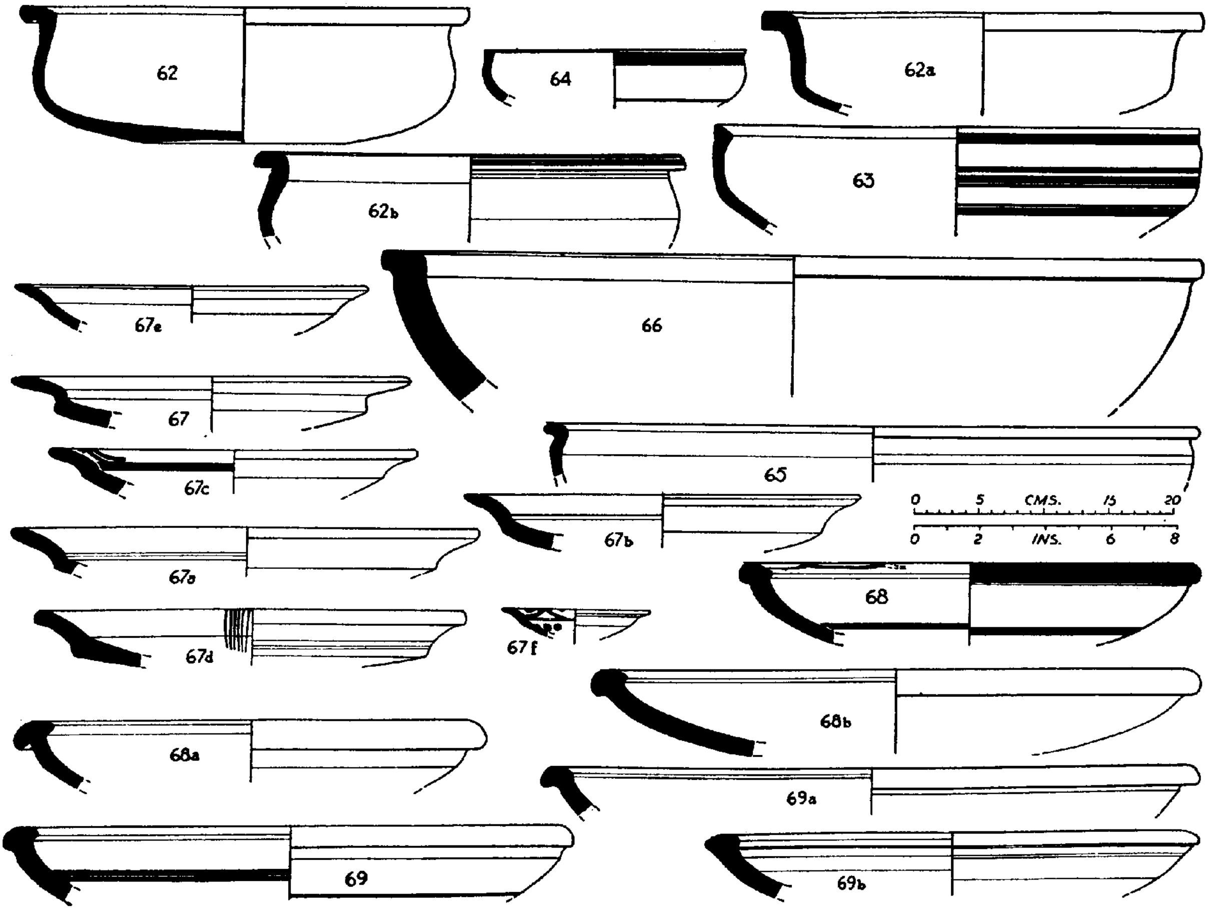



FIG. 22. *Red ware, Period II A*

*Type 73.* Stand of a dish-on-stand of superior red fabric. Painted with black horizontal bands over red on the hollow stem and the base of the dish. From late level of Period II A.

*Type 74.* Stand of a dish-on-stand. Marks of luting visible; chocolate slip on a buff surface. From early level of Period II A.

*Type 75.* Stand of a dish-on-stand with a large base having a raised edge. Unslipped. Painted in black bands directly. From middle level of Period II A.

*Type 76.* Large dish of a dish-on-stand with a carinated shoulder and projected rim. Painted on the exterior with thick black bands at the shoulder and near the stem. From late level of Period II A.

*Type 77.* Dish of a dish-on-stand(?), deep in the centre. From late level of Period II A.

*Type 78.* Stand of a jar beaded at the base. Painted in black over a crimson slip. Sturdy. From late level of Period II A.

*Type 79.* Stand of a jar with a grooved rim and sharp raised base; slipless. From late level of Period II A.

*Type 80.* Stand of a jar with a projected rim and raised edge at the base. Very sturdy. From late level of Period II A.

*Type 81.* Beaker with a footed base. Corrugations and finger-marks visible on the interior. Buff-slipped. From early level of Period II A; occurs in a very limited quantity in Period II B also. Pl. XVIII B, *10.*

*Type 82.* Beaker with a flat base and string-marks. Thin sturdy ware. From middle level of Period II A. Pl. XVIII B, *13.*

*Type 83.* Goblet with a flat base and thick tapering sides. From early level of Period II A. Pl. XVIII B, *4*. *Variant 83a,* with a narrow elongated base, tapering sides and corrugated interior. Red slip on the exterior. From late level of Period II A; occurs in Period II B also. *Variant 83b,* with a narrow but elongated base. From middle level of Period II A; occurs in Period II B also. Pl. XVIII B, *5.*

*Type 84.* Goblet with a footed base. From late level of Period II A.

*Type 85.* Goblet with thin walls and footed base. From middle level of Period II A. Pl. XVIII B, *8.*

*Type 86.* Lid with a hole in the centre, inscribed with seven Indus signs on upper surface. From late level of Period II A. Pl. XXIX A.

*Type 87.* Lid with an external knob. Surface smooth. From early level of Period II A. *Variant 87a,* with a sharp rim. From late level of Period II A.

*Type 88.* Lid, almost flat. Buff slip. From late level of Period II A.

*Type 89.* Lid with an external knob and projected rim. From late level of Period II A. *Variant 89a,* larger in size with traces of smoke on the undersurface. From late level of Period II A.

*Type 90.* Lid with almost a flat base. From late level of Period II A.

*Type 91.* Lid with an internal circular knob. From early level of Period II A.

*Type 92.* Special type of deep bowl with a stud-handle, till now called ' handled saucepan '. Found at almost all the Harappan sites in Gujarat. Superbly treated with fine red slip and painted with a fine brush on the handle. Sometimes painted on the rim with horizontal lines and on the interior with small hatched diamonds. Pl. XVIII B, *2.* From early level of Period II A; occurs in Periods II B and II C and in the black-and-red ware also. *Variant 92a,* with a glossy surface owing to the use of mica. Painted on the handle with intersecting lines in black over red. From late level of Period II A. *Variant 92b,* painted in black over red with intersecting lines on the handle. From early level of Period II A.

*Type 93.* 'S'-shaped jar-stand (?) with a flanged rim and base. Interior treated with a buff slip. Provision for placing lid visible. From early level of Period II A.

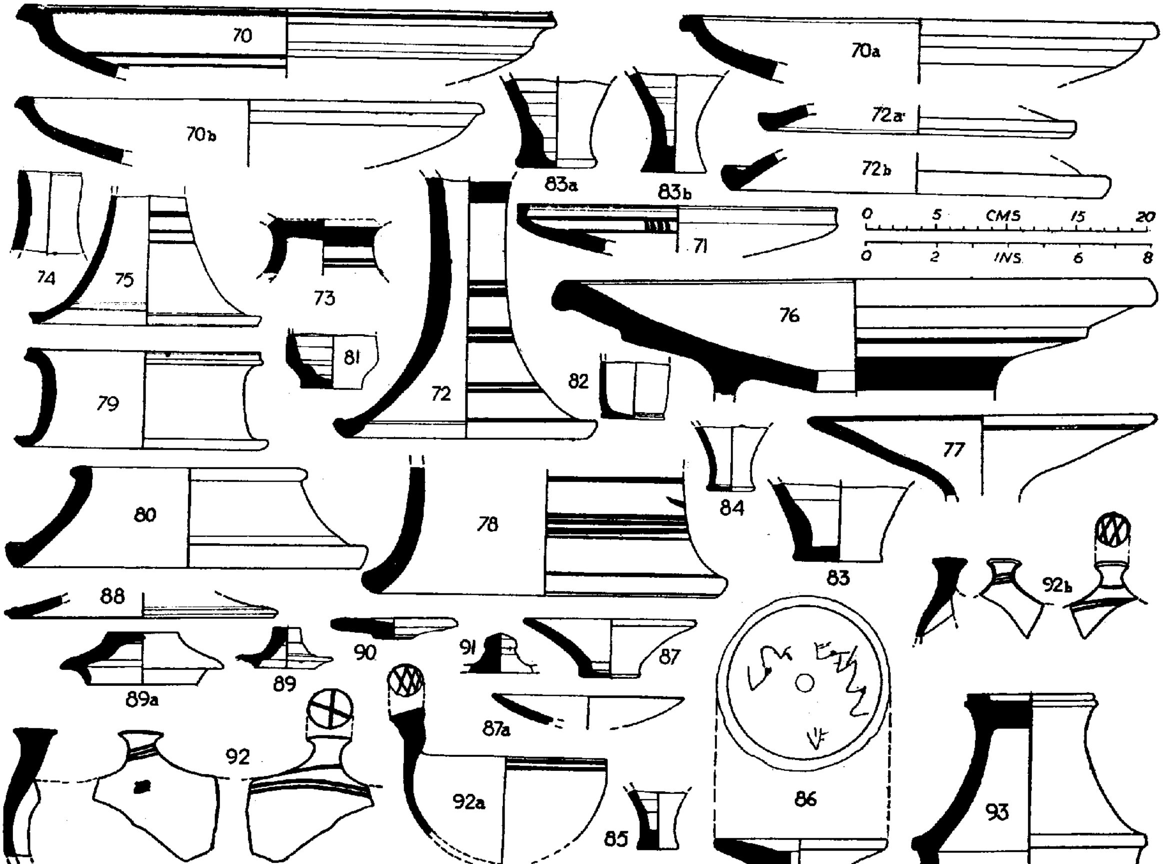



FIG. 23. *Red ware, Period II A*

*Buff ware*

Fig. 24

*Type 94.* Jar of medium thicknes with a wide mouth, flaring rim and bulbous body. Greenish buff in colour. Form early level of Period II A. *Variant 94a,* smaller in size. Painted on the shoulder and rim with pink bands over buff surface. *Variant 94b,* with a beaded rim and small neck. Painted in chocolate over pink slip. From middle level of Period II A.

*Type 95.* Jar with a flaring rim, flanged shoulder and bulbous body. Very small pinched lug-handle. From intermediate level of Period II A.

*Type 96.* Thick jar with a wide mouth, flat rim and flange for the lid to rest. Probably 'S'-shaped profile. Painted in chocolate over buff. From late level of Period II A. *Variant 96a,* with a 'S'-shaped profile but smaller in size and with thinner walls. Perforated below the rim for suspension. From late level of Period II A. Pl. XVIII B, *6.* Such suspending vessels occur at Harappa, Mohenjo-daro and Lothal.

*Type 97.* Jar with a beaded rim and small neck. Buff slip. Thin ware. From middle level of Period II A. *Variant 97a,* sturdier; light-chocolate slip. From middle level of Period II A.

*Type 98.* Shallow dish with a projected rim and carinated shoulder. Painted with a chocolate band over greenish buff background on the interior of the base and three vertical lines and a chocolate band on the rim. From late level of Period II A.

*Type 99.* Shallow dish with a projected rim and non-carinated shoulder. Painted in light red on buff. From latest level of Period II A; occurs in Period II B also.

*Type 100.* Large dish with a nail-headed rim painted in deep chocolate over a light-chocolate slip with suspended loops between horizontal bands on the rim. From late level of Period II A. Pl. XVIII B, *1.*

*Type 101.* Dish with a nail-headed rim, treated with a chocolate slip. From middle level of Period II A. *Variant 101a,* with the rim slightly beaked internally. Treated with a red slip on the interior. From early level of Period II A; occurs in Period II B also. *Variant 101b,* with an internally beaded rim and slipless surface. From early level of Period II A.

*Type 102.* Lid with a slightly-beaded rim. From middle level of Period II A.

*Type 103.* Jar-stand. From early level of Period II A.

*Coarse red ware*

Fig. 24

*Type 104.* Jar in thick coarse red fabric with a flaring rim and slightly-flanged shoulder. Painted with light-black horizontal band and loops. From middle level of Period II A.

*Type 105.* Jar with a flaring neck and grooved shoulder. From early level of Period II A.

*Type 106.* Jar with an out-turned rim in a dull-red fabric. Slipless. From late level of Period II A.

*Type 107.* Large jar with a wide mouth, flaring rim and almost straight sides. Painted in black over deep-red on the rim and shoulder with horizontal bands and oblique lines. Ill-fired; smoky core. From early level of Period II A.

*Type 108.* Bowl with a splayed rim. Silpless. From late level of Period II A.

*Type 109.* Bowl with a nail-headed rim. Red wash. From middle level of Period II A.

*Type 110.* Dish with a splayed but internally-beaked rim. From level of Period II A.

*Type 111.* Bowl with an out-turned beaked rim. From middle level of Period II A.

*Type 112.* Small bowl with a bevelled rim but thick walls. From late level of Period II A.

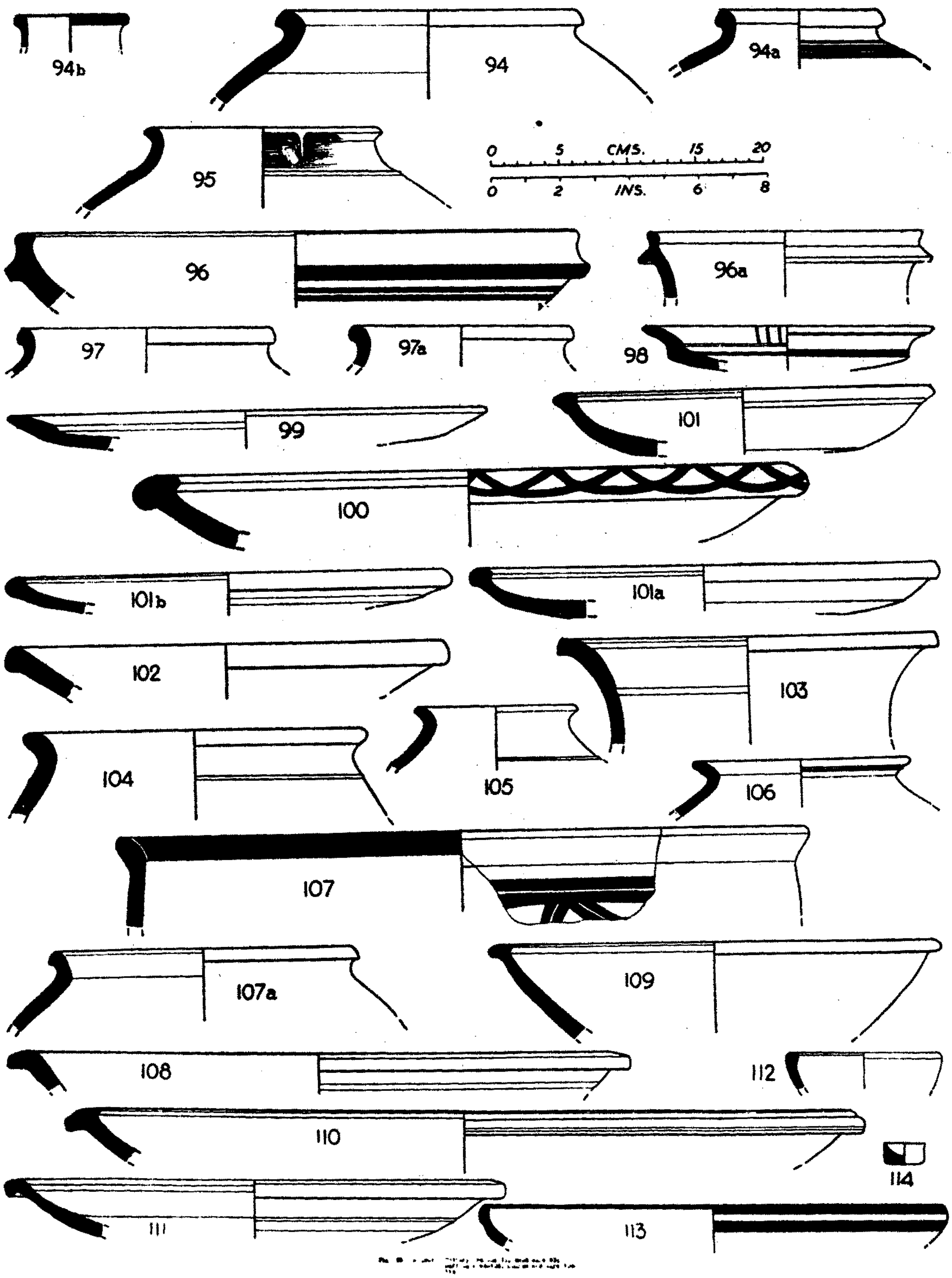



FIG. 24. *94-103, buff ware, and 104-114, coarse red ware, Period II A*

*Type 113.* Shallow bowl with an incurved rim painted with black bands over the rim and body. From middle level of Period II A.

*Type 114.* Miniature trough with a smoky core. From early level of Period II A.

*Coarse grey ware*

Fig. 25

*Type 115.* Jar with a flaring rim and bulbous body. Slightly burnished. Dull creamy surface. Gritty. From early level of Period II A. *Variant 115a,* with a very prominent flaring rim. Coarser fabric. From middle level of Period II A.

*Type 116.* Jar in gritty fabric with a flaring rim and flanged shoulder. Red wash faintly visible. From middle level of Period II A. *Variant 116a,* with a bulbous body. *Variant 116b,* with a slightly-beaded rim, flanged shoulder and bulbous body. From late level of Period II A.

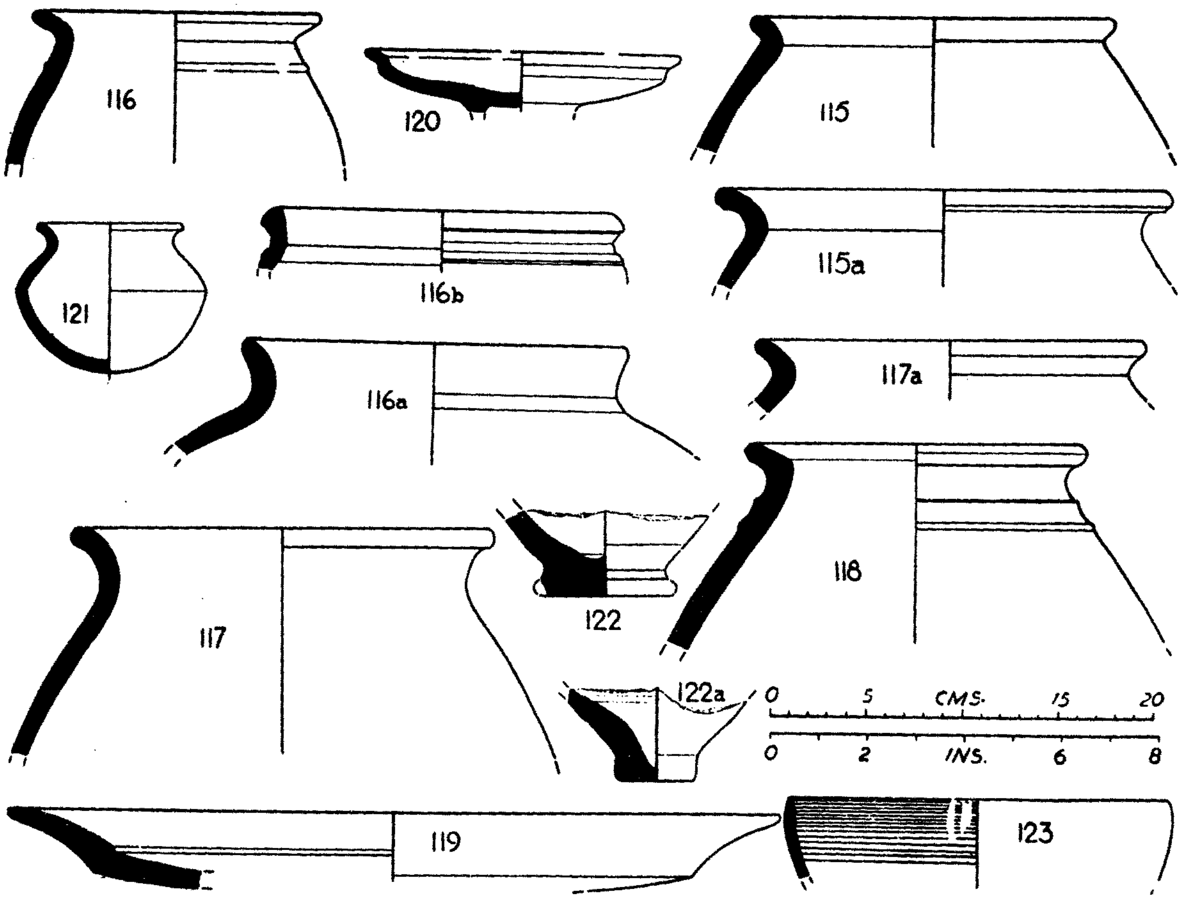



FIG. 25. *115-122a, coarse grey ware, and 123, black-and-red ware, Period II A*

*Type 117.* Jar with a thick flaring rim and slightly bulbous body. Rough surface. From late level of Period II A. *Variant 117a,* with a fairly smooth surface and light-red colour.

*Type 118.* Thick jar with a projected rim, corrugated shoulder and bulbous body. From early level of Period II A.

*Type 119.* Dish in grey ware of superior fabric with a projected rim and carinated shoulder. Very well burnished. Finely-levigated clay used. From late level of Period II A.

*Type 120.* Shallow dish of a dish-on-stand with a slightly-projected rim. Burnished. From late level of Period II A.

*Type 121.* Bowl with a flaring rim, small neck and carinated shoulder. Burnished on the shoulder only. From middle level of Period IIA; occurs in coarse grey ware in Period II B.

*Type. 122.* Goblet with tapering sides and pedestal-base. Coarse and gritty, treated with a red wash. From early level of Period II A. *Variant 122a,* with a smooth surface and unslipped.

*Black-and-red ware*

Fig. 25

*Type 123.* Bowl with a featureless rim and convex profile, painted on the interior with dirty-white vertical bands. From middle level of Period II A.

*Painted and incised sherds*

Fig. 26

*A1.* Sherd of thin red ware painted with black parallel horizontal bands. A zigzag line between the two lower bands. Fine brushwork. Smooth micaceous surface. From early level of Period II A.

*A2.* Sherd painted with three horizontal bands in chocolate over light-red. From late level of Period II A.

*A3.* Sherd painted on the neck in chocolate over brown with a thin horizontal band. Two bands at the shoulder also visible. From middle level of Period II A. *Variant A3a,* painted in light-black over a fine red slip with zigzag lines between horizontal bands. Micaceous surface. From early level of Period II A.

*A4.* Sherd of a large jar with patches of red and buff slip due to differential firing. A cluster of inverted loops springing from two points intersecting one another forming arches visible. Painting executed in light-chocolate over a buff slip. From early level of Period II A. Pl. XIX B, *7.*

*A5.* Thick sturdy sherd with four parallel horizontal bands painted in black over a partly buff and partly red background. From middle level of Period II A.

*A6.* Disk-base of a jar (?) painted with parallel bands in black over red on the interior. From late level of Period II A.

*A7.* Thick sherd painted with chocolate band on buff slip on the shoulder and a labyrinth design in red over buff slip on the belly. From middle level of Period II A; occurs in Lothal B also. Pl. XIX B, *2.*

*A8.* Sherd painted with six horizontal bands in chocolate over a red background, with an additional slip of buff below, producing a bichrome effect. From middle level of Period II A.

*A9.* Sherd painted with black horizontal bands over a red slip. Upper part of the vessel treated with a buff slip, producing bichrome effect. From middle level of Period II A.

*A10.* Sherd painted with leaf-patterns over a horizontal band in light black over a buff slip. Lower part treated with a light-red colour. An example of naturalistic motif and bichrome ware. From late level of Period II A.

*A11.* Sherd painted with black horizontal bands over red. Multiple grooves noticed further below. Lower part treated with buff slip producing bichrome effect. From middle level of Period II A.

*A12.* Sherd painted with vertical lines in black over a red, micaceous surface with a fine brush. From middle level of Period II A. *Variant A12a,* with vertical lines painted in groups over a micaceous red background. From early level of Period II A; occurs in Period II B also. *Variant A12b,* a bigger sherd painted with thicker oblique lines between horizontal bands in deep black over a light-red micaceous surface. From middle level of Period II A. Pl. XIX B, *5.*

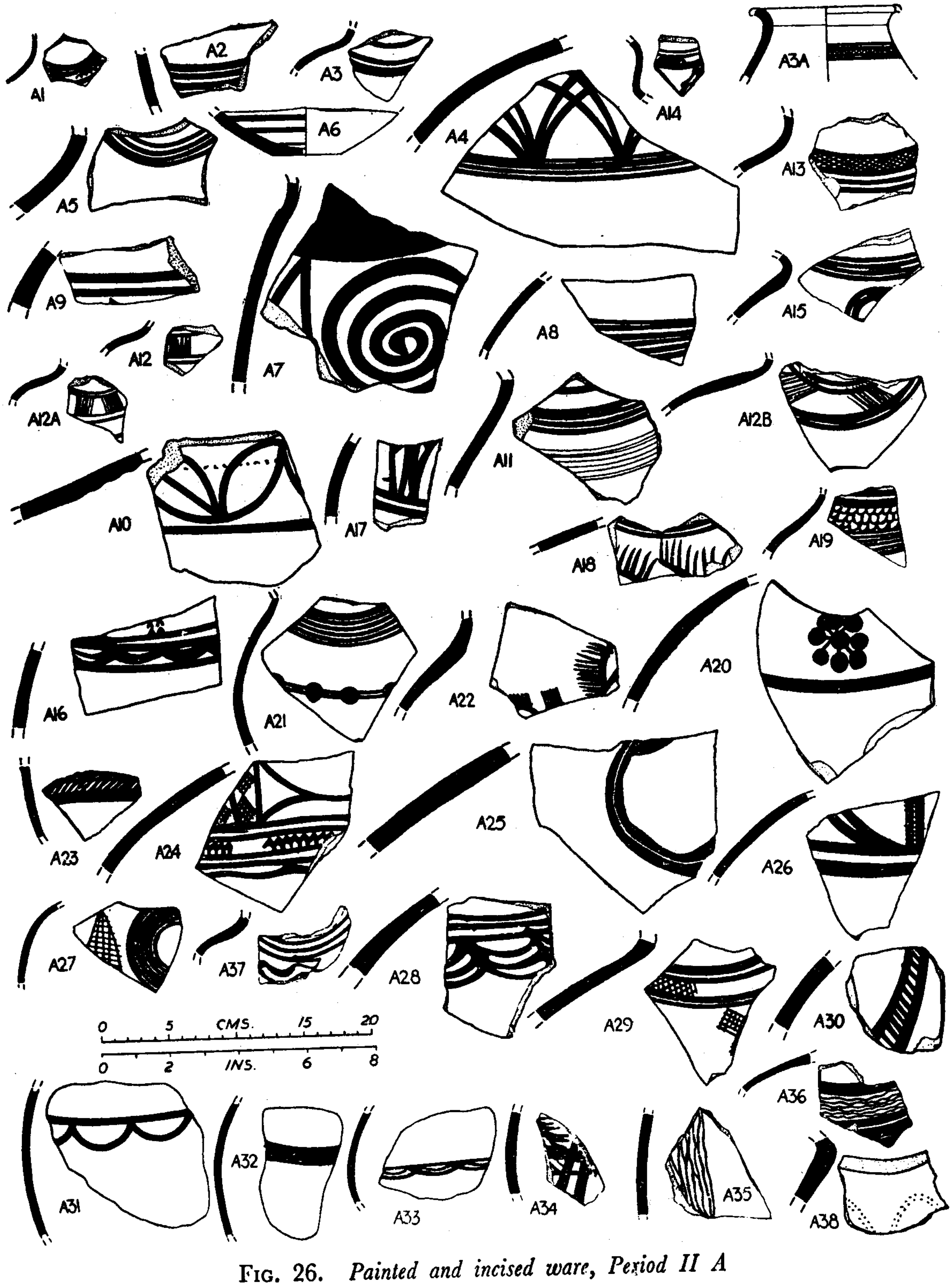



FIG. 26. *Painted and incised ware, Period II A*

*A13.* Neck of a jar painted in black over a smooth red micaceous surface. Cross-hatched in a horizontal register between horizontal bands. From late level of Period II A; occurs in Period II B also.

*A14.* Neck of a small jar, painted in light black over micaceous red surface with inverted loops between horizontal bands; further below some flowering wavy lines painted. From latest level of Period II A.

*A15.* Sherd of a jar with an out-turned rim and smooth red micaceous surface. Painted with four black horizontal bands and zigzag lines over a red background. Loops also noticed. From late level of Period II A; occurs in Period II B and Lothal B also.

*A16.* Sherd painted in light black over light-red with suspended loops between horizontal bands, two rows of strokes above, indicating flying birds (?). Pl. XIX B, *4*.

*A17.* Sherd painted in black over deep red with vertical and horizontal lines. Design not clear. Sturdy ware. From middle level of Period II A.

*A18.* Sherd painted in light black over red. Fronds on oblique lines below horizontal bands indicating plant-motif. From middle level of Period II A.

*A19.* Shoulder of a small pinkish pot painted with fish-scale pattern between horizontal bands in light black. An example of naturalistic motif. From early level of Period II A; occurs in Period II B also. Pl. XIX B, *3*.

*A20.* Sherd painted in chocolate over buff with intersecting lines ending in pellets at the end and at the centre. Also horizontal bands at the junction of buff and red slips, producing a bichrome effect. From late level of Period II A; occurs at Lothal also.

*A21.* Sherd painted in light black over chocolate background with roundels over two horizontal bands. Fabric sturdy and surface smooth. Treated with a fine slip all over. From middle level of Period II A. Pl. XIX B, *1*.

*A22.* Sherd painted with loops and fronds in black over brownish mat-surface. From late level of Period II A; occurs in Periods II B and III and in Lothal A and B also.

*A23.* Sherd painted with oblique lines between two thick horizontal bands in black over red. From late level of Period II A. Pl. XIX B, *6*.

*A24.* Thick sherd of a large jar painted in deep black over deep red with a vertical row of hatched diamonds above a set of horizontal bands. Suspended and inverted loops and zigzag lines between horizontal bands also painted. An example of the combination of a variety of designs, as at Harappa, Mohenjo-daro and Lothal A. From middle level of Period II A. These designs occur individually in Periods II B and II C and Lothal B.

*A25.* Thick sherd painted in black over light red with incomplete circles or loop-designs. From middle level of Period II A.

*A26.* Sherd painted in light-black over light red with vertically-hatched lines and suspended loops above horizontal bands. From late level of Period II A.

*A27.* Basal portion of a vessel painted with concentric circles and a fish-net motif in light black over pinkish background. Thin sturdy ware. From early level of Period II A; occurs in Period II B also. Pl. XIX B, *8*.

*A28.* Thick sturdy sherd painted in black over micaceous red surface with suspended loops below horizontal bands.

*A29.* Sherd painted in black over a micaceous red slip with hatched diamonds below horizontal bands. Interspace between bands also hatched in a panel. From middle level of Period II A.

*A30.* Thick sherd painted in light black over buff surface with oblique strokes between thick bands. Surface weathered. From middle level of Period II A.

*A31.* Thick sherd painted in chocolate over buff with suspended loops. From late level of Period II A.

*A32.* Sherd painted with a wide horizontal band in chocolate over a buff surface. From middle level of Period II A.

*A33.* Sherd painted with a series of suspended loops in light red over a buff surface. From early level of Period II A.

*A34.* Sherd painted with black horizontal bands, oblique lines and fronds. Design not clear. From middle level of Period II A.

*A35.* Sherd painted with light-chocolate wavy lines over a light-red surface. Rare sherd. From late level of Period II A.

*A36.* Sherd painted in black over a pinkish slip with wavy lines and horizontal bands. Vaguely resembling sherds of non-Harappan origin from Lothal A.

*A37.* Shoulder of a coarse gritty jar painted in black over red with two thick wavy lines. From early level of Period II A; occurs at Harappa also.

*A38.* Shoulder of a jar incised with parallel wavy lines in dots. From middle level of Period II A.

### (iv) *Period II B*

The pottery of Period II B is not very much different from the pottery of Period II A so far as shapes go. This is so because the same people continued to occupy the central parts of the mound in Period II B after abandoning the northern and western parts which they had occupied in Period II A.

The reason for considering the pottery from the earliest levels of the cuttings RGP 1, RGP 2, RGP 5 and RGP 6 as representing the degenerate phase of Period II is that some of the vessels show a poor treatment of the surface, and at times the fabric is also coarse, e.g., the dish-on-stand (fig. 29, *31*), storage-jar (fig. 28, *18* and *19b*), bowl (fig. 28, *23*) and dish (pl. XX A, *8*). Secondly, minor changes in the shape of certain vessels like the convex-sided bowl (fig. 29, *29*), jar with a small neck (fig. 27, *6* and *8*), stands of dishes (fig. 29, *34* and *35*) and storage-jars (fig. 28, *19a* and *19b*) are visible, though not very strikingly in the case of the jar. The convex-sided bowl shows a tendency to have a straight rim instead of an incurved one. In addition to the indifferent treatment of the surface of the vessels and minor modifications in forms as described above, there are a few other points to be noted in regard to the ceramic industry. The goblet and beaker are very rare. Only two sherds of each have been found in Period II B. The micaceous red ware is in limited use, and dishes are fewer in number than in Period II A.

In spite of some minor changes in ceramic forms and indifferent treatment of the surface of the vessels it would be wrong to conclude that in Period II B the people developed entirely new ceramic traditions. Except for the minor change in one or two types and the scarcity of two other types all the Harappa types of Period II A continued to be in use in their original form in Period II B. A number of vessels are also carefully painted. An excellent example is a footed bowl painted with peacock and hatched diamond, repeated over and over again in a horizontal register (fig. 29, *28*). But some vessels are carelessly painted and the surface is not uniformly covered with slip. A lack of the control of the brush and want of uniformity of lines are noticeable. Compare types 33 and 34 of Period II B with types 63 and 11 of Period II A.

The buff ware of Period II A survived in Period II B also. The colour-scheme adopted for painting is the same as in Period II A, viz. light black, chocolate or light red over a buff or greenish-buff background.

The coarse red ware continued to be in limited use. The fabric is slightly coarser than in Period II A, but the types are similar.

The coarse grey ware does not undergo any major change in Period II A. Burnishing is hardly resorted to. The decoration consists of incised linear designs.

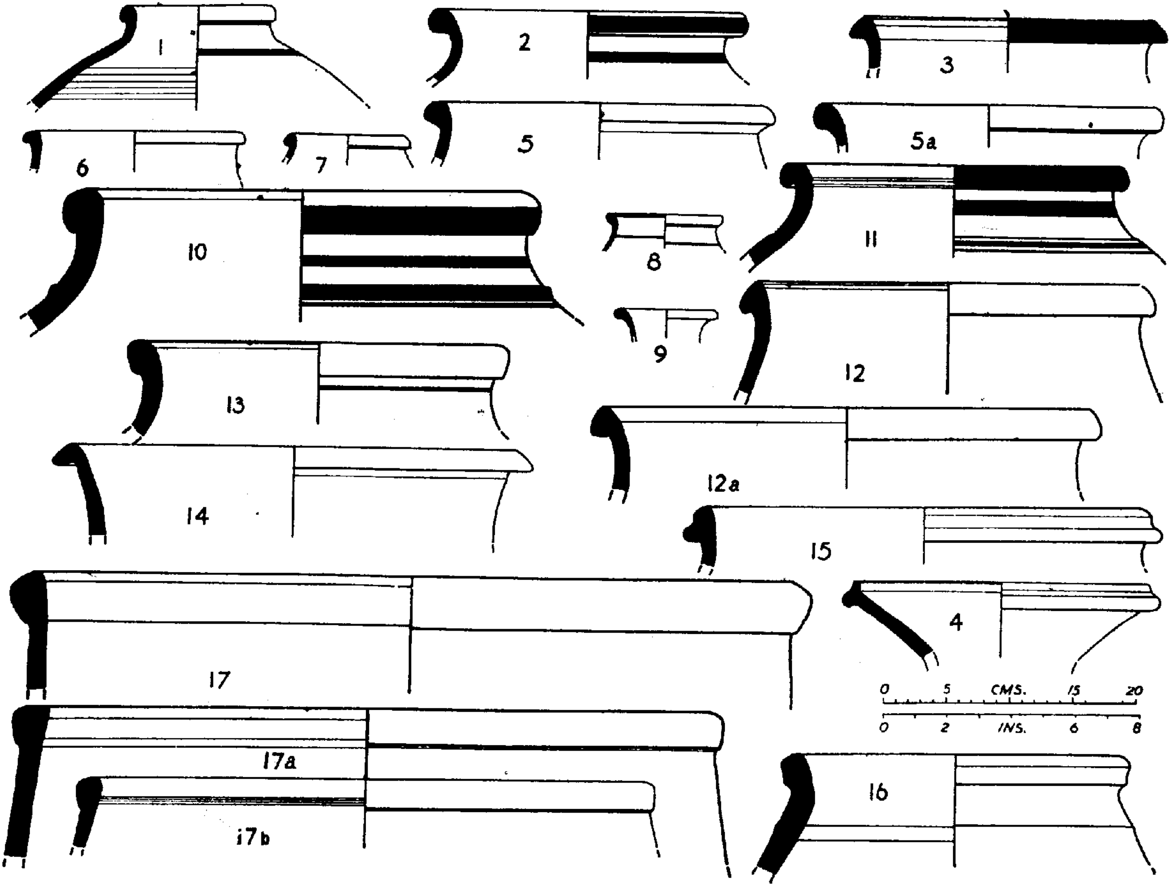



FIG. 27. *Red ware, Period II B*

Though the number of vessels fired in the inverted firing technique are very few in Period II B, as in Period II A, two new types are noticed. Besides the convex-sided bowl, a jar and a basin have also been subject to inverted firing. They are analogous in shapes to those in the micaceous red ware.

*Red ware*

Fig. 27

*Type 1.* Jar of medium size with a beaked rim, bulbous body and raised neck. Treated with red and buff slips and painted in black bands on the shoulder. From late level of Period II B; occurs in Period II C in a much inferior fabric.

*Type 2.* Jar with a beaded rim and raised neck. Red slip partially disappeared. Painted with black bands. From middle level of Period II B; also occurs in Period II C.

*Type 3.* Jar with an out-turned, beaked rim. Painted with a thick black band on the outer surface of the rim. Fabric coarse. From middle level of Period II B.

*Type 4.* Jar with a long flaring neck and a flange for placing lid. Rough surface. From middle level of Period II B; occurs in Period II C also.

*Type 5.* Jar with a heavy beaded rim and raised concave neck. Fabric coarse and surface rough. Painted on the rim in light-black band which has partially disappeared. From middle level of Period II B. Pl. XX A, *4*. *Variant 5a*, with a rough surface due to weathering. Slip disappeared. From late level of Period II B.

*Type 6.* Jar with a high neck and beaded rim. From middle level of Period II B.

*Type 7.* Small jar with a fully-beaded rim and bulbous body. Buff-slipped. From middle level of Period II B.

*Type 8.* Thin jar with a beaded rim and raised neck. Surface smooth with a fine-red slip. From middle level of Period II B.

*Type 9.* Small jar with a high neck and beaded rim. Red slip. From late level of Period II B.

*Type 10.* Large jar in sturdy ware with a heavy beaded rim, flanged shoulder and probably bulbous body. Painted with thick chocolate horizontal bands over red slip. From early level of Period II B. Pl. XX A, *2*.

*Type 11.* Jar with a beaked rim, bulbous body and ledged shoulder, painted with chocolate horizontal bands over red at the rim, neck and shoulder. Rough surface. Striations visible through slip. From middle level of Period II B.

*Type 12.* Jar with a beaked rim in inferior fabric. From late level of Period II B; occurs in Period II C also. *Variant 12a*, with a slightly high neck. Slip partially disappeared. Coarse ware, smoky core. From late level of Period II B.

*Type 13.* Jar with a beaded rim, bulbous body and raised neck. Striations visible through thin slip. Painting partially disappeared. From middle level of Period II B.

*Type 14.* Jar with a wide mouth, out-turned beaked rim and high neck. Thick dark-chocolate slip. Sturdy ware. From late level of Period II B.

*Type 15.* Jar with a grooved rim for placing lid. Fabric very coarse. Slip flaked off. From intermediary level of Period II B.

*Type 16.* Jar with a flaring rim and slightly-flanged shoulder. Coarse fabric and surface rough. From early level of Period II B.

*Type 17.* Thick storage-jar with a slightly-clubbed rim and straight sides. Red slip. From middle level of Period II B. *Variant 17a*, with a flat rim. Sturdy ware. From middle level of Period II B. *Variant 17b*, of medium size. Sides straight and painted in light red. From middle level of Period II B.

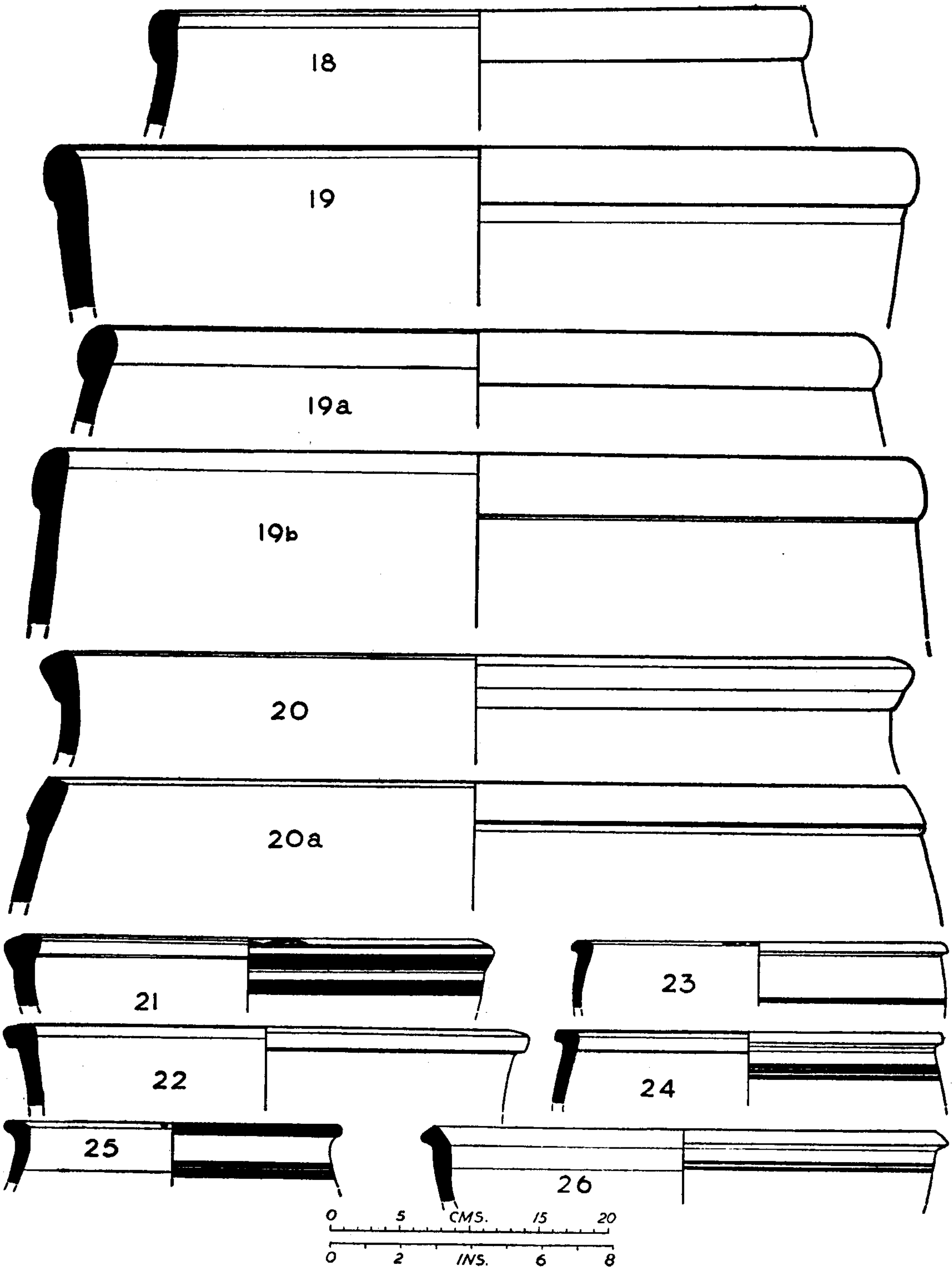



FIG. 28. *Red ware, Period II B*

Fig. 28

*Type 18.* Storage-jar with a flat but slightly-clubbed rim. Coarse fabric. Surface rough and slip flaked off. From early level of Period II B. Pl. XX A, *1*.

*Type 19.* Thick sturdy storage-jar with a heavy beaded rim and straight sides. Thin pinkish slip partially covering the surface. From middle level of Period II B. *Variant 19a*, of coarse fabric and slip flaked off. *Variant 19b*, with a partially-clubbed rim. Fabric coarse. From middle level of Period II B; occurs in Period II C also.

*Type 20.* Storage-jar with a grooved, splayed rim, in inferior fabric with a rough surface. Red slip. From early level of Period II B. *Variant 20a*, with an incurved rim in coarse fabric. Surface rough; thin slip partially covering striations. From middle level of Period II B; occurs in Periods II C and III also.

*Type 21.* Large bowl with an obliquely-cut rim. Painted with loops between horizontal bands in black over red on the shoulder and rim. From middle level of Period II B.

*Type 22.* Bowl with a flat, projected rim and almost straight sides. Rough surface. From early level of Period II B.

*Type 23.* Bowl with a projected beaked rim and slightly-convex sides. Painted across the rim with four strokes in light-black over a red slip. Rough surface, slip flaking. From early level of Period II B.

*Type 24.* Bowl with a flat projected rim and slightly-convex sides. Painted with loops across the rim and with horizontal bands on the shoulder in light-black over a slipless reddish rough surface. From middle level of Period II B. Pl. XX A, *3*.

*Type 25.* Bowl with an out-turned rim in sturdy ware; surface pared. Painted with deep-black horizontal bands on the shoulder and rim over a thick-red slip. Shining smooth surface. Internally painted across the rim also. From middle level of Period II B.

*Type 26.* Bowl with a flaring beaked rim and convex sides. Painted with pinkish horizontal bands over light red. Surface rough. Slip flaked off. From early level of Period II B.

Fig. 29

*Type 27.* Convex-sided bowl with a thick rim. Painted white colour in addition to black over a red background. Exterior painted with a wide white register bounded by black horizontal bands with deep-red slip on either side. Interior slipped red. Bichrome ware. From middle level of Period II B. Pl. XX A, *6*. *Variant 27a*, with a smooth red surface, painted with wavy lines on the exterior and plant-motif on the interior in black over red. From middle level of Period II B.

*Type 28.* Bowl with a ring-footed base and straight sides with a tendency towards blunt carination at the shoulder. Superior fabric and smooth surface. A row of peacocks, of which two are visible, painted in black over light red in a horizontal register, besides a vertical row of hatched diamonds dividing the upper part of the vessel into compartments. Zonal conception and division into horizontal registers noticed for the first fime. From late level of Period II B. Pl. XXII A.

*Type 29.* Bowl with a thick rim and straight sides replacing the convex profile noticed in the preceding Period. Painted with black horizontal band over red on the rim. Surface rough and partially covered by a red slip. From middle level of Period II B. Pl. XX A, *7*. This type develops a blunt-carinated shoulder in Period II C. *Variant 29a*, large; thicker and coarser in fabric than the main type. Treated with a buff slip. From middle level of Period II B.

*Type 30.* Basin with a projected rim and slightly-convex sides. Rough surface. From middle level of Period II B.

*Type 31.* Dish of a dish-on-stand (?) with a short but projected rim and carinated shoulder. Painted on the rim with suspended loops and horizontal band in black over red. Fabric coarse and surface rough. Slip almost flaked off. From middle level of Period II B. Pl. XX A, *8*. The short rim of the type gets beaded and the shoulder blunt-carinated in Period II C.

*Type 32.* Lid. From intermediary level of Period II B.

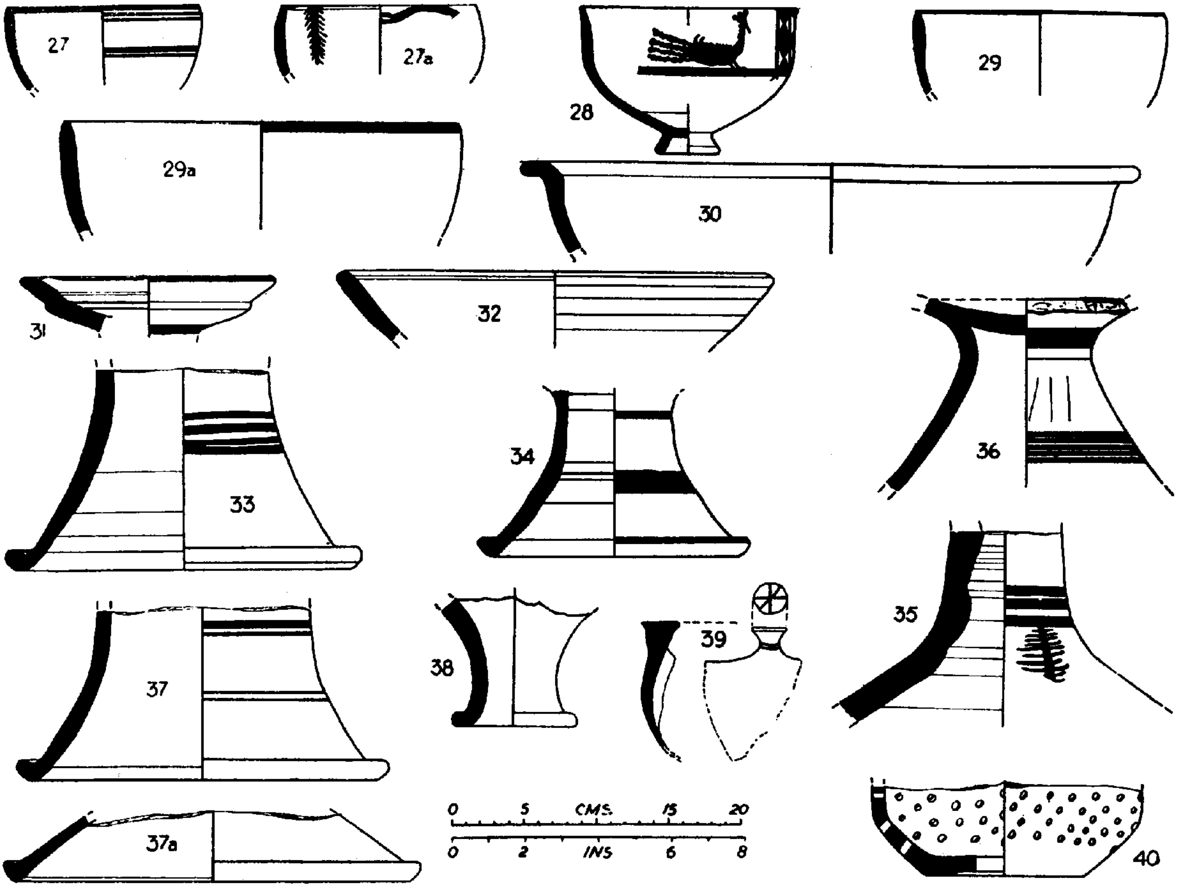



FIG. 29. *Red ware, Period II B*

*Type 33.* Large stand of a dish-on-stand. Painted with irregular thick horizontal bands in black over red. Sturdy ware. Surface smooth. From middle level of Period II B.

*Type 34.* Stand of a dish-on-stand with a short stem in a slightly-coarse fabric; a raised edge at the base. Horizontal bands painted in black over red, not of uniform thickness. Indifferently slipped. From late level of Period II B.

*Type 35.* Thick stand of a large dish-on-stand. Painted in black over red with vertical line and horizontal strokes across it, suggesting a plant-motif which is repeated at intervals. Coarse fabric but smooth surface. From late level of Period II B.

*Type 36.* Large dish-on-stand. Surface rough and fabric inferior. With graffiti. Also painted in black bands over a thin red slip which has almost flaked off. From middle level of Period II B.

*Type 37.* Stand with a beaded base and chocolate slip. Rough surface. From late level of Period II B. *Variant 37a,* with a smooth shining red surface produced by close paring. Sturdy ware. From middle level of Period II B.

*Type 38.* Jar-stand with a beaded base. From early level of Period II B.

*Type 39.* Bowl with a stud-handle and micaceous red surface. Painted with light-black horizontal bands and intersecting lines on the handle. From early level of Period II B.

*Type 40.* Basal portion of a cylindrical perforated jar. From early level of Period II B.

*Buff ware*

Fig. 30

*Type 41.* Jar with a beaded rim and bulbous body. From middle level of Period II B.

*Type 42.* Jar with a wide mouth and nail-headed rim. Painted with chocolate on horizontal bands over a light-chocolate slip and inverted loops over a green slip on the exterior surface of the rim. Sturdy ware. From early level of Period II B.

*Type 43.* Large storage-jar with a sturdy flat rim and slightly-convex profile. Light-pinkish slip partially disappeared. From middle level of Period II B.

*Type 44.* Storage-jar with a slightly-beaded rim and straight walls. Painted with chocolate bands on the rim and belly and suspended loops on the rim. Surface rough. From early level of Period II B.

*Type 45.* Jar with a beaded rim and bulbous body. Thin slip flaked off. From middle level of Period II B.

*Type 46.* Bowl with a beaked projected rim and almost straight sides. Painted in chocolate over greenish surface on the rim. From early level of Period II B.

*Type 47.* Lid with a nail-headed rim and prominent flange on the exterior. Painted with purple and chocolate bands below the flange. Radiating lines visible below a group of horizontal bands. From middle level of Period II B.

*Type 48.* Bowl with straight sides and a pointed rim in coarse fabric. The evolution from the typical convex-sided bowl of Period II A is striking. Greenish surface due to overfiring. Surface rough. From middle level of Period II B.

*Type 49.* Basin with a nail-headed rim and convex profile. Internally grooved. Painted on the interior in light black and on the exterior in chocolate over greenish surface. Sturdy fabric. From middle level of Period II B.

*Type 50.* Shallow basin with a flat projected rim and blunt-carinated shoulder. Painted with chocolate bands on the rim and shoulder. Rough surface. Sturdy ware. From late level of Period II B.

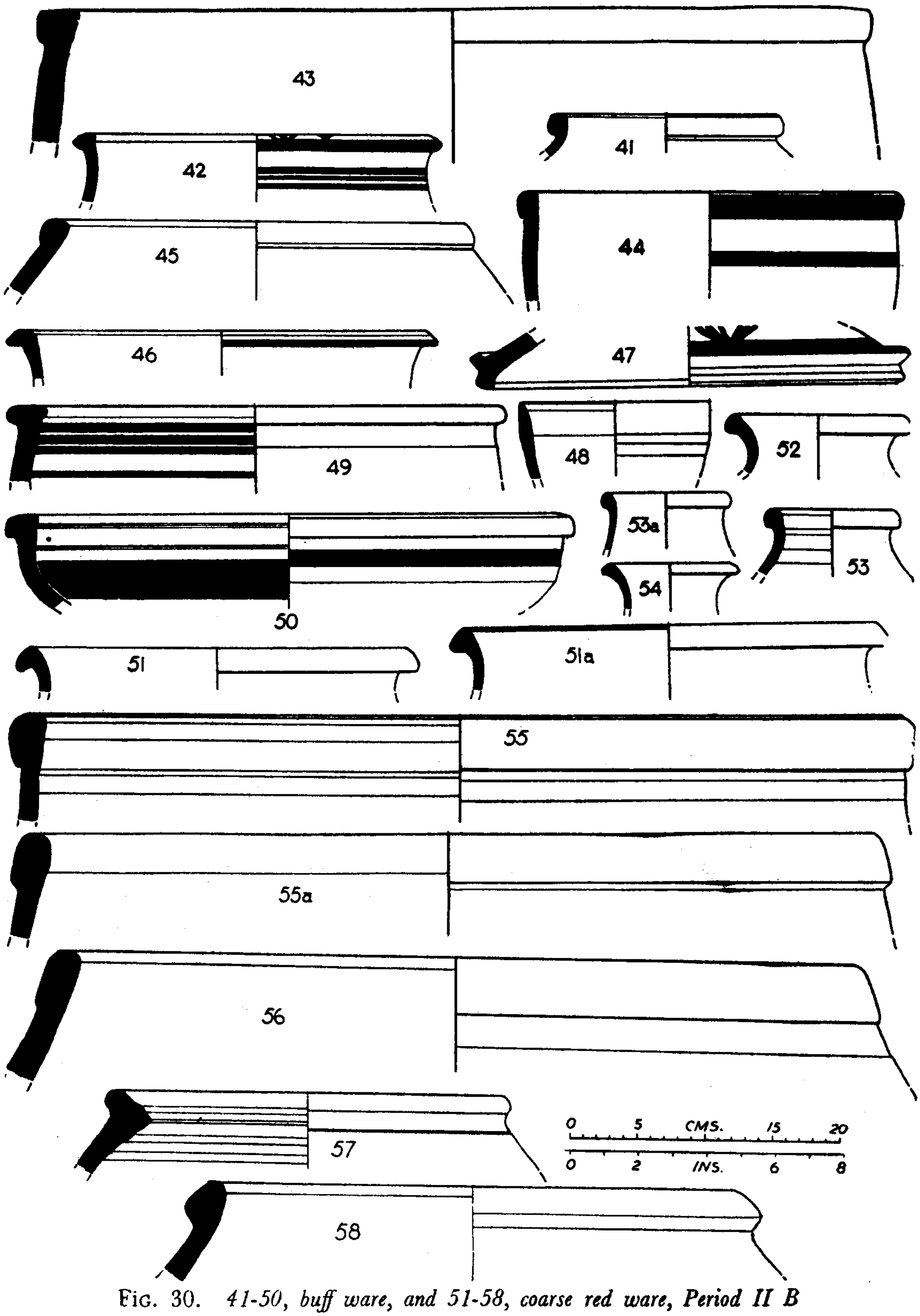



FIG. 30. *41-50, buff ware, and 51-58, coarse red ware, Period II B*

*Coarse red ware*

Fig. 30

*Type 51.* Jar with a wide mouth, flaring neck and beaked rim. With smoky core and red slip. From late level of Period II B. *Variant 51a,* with a slightly-beaked rim. From late level of Period Period II B.

*Type 52.* Jar with a beaded rim, flaring neck and bulbous body. Slipped red. From middle level of Period II B; occurs in Period II A also.

*Type 53.* Jar with a raised neck, beaked rim, bulbous body and rough surface. Fabric very coarse. From middle level of Period II B. Pl. XX A, *5. Variant 53a,* of smaller size.

*Type 54.* Jar with a raised neck and splayed rim. From middle level of Period II B; occurs in Period II A also.

*Type 55.* Thick storage-jar with a flat but slightly-beaded rim and straight sides. Slipless. From middle level of Period II B; occurs in Period II A also. *Variant 55a,* of slightly sturdy fabric and slipped red. From middle level of Period II B.

*Type 56.* Jar with thick walls, a convex profile and rounded rim. Very rough surface. From middle level of Period II B.

*Type 57.* Jar with a wide mouth, flaring neck and internally-pointed rim. Bulbous body. Very coarse and gritty fabric. From middle level of Period II B.

*Type 58.* Thick jar with a beaked rim. Red slip. From middle level of Period II B.

*Coarse grey ware*

Fig. 31

*Type 59.* Jar with straight sides and a flat projected rim. Surface burnished. From early level of Period II B.

*Type 60.* Jar with a wide mouth, splayed beaded rim and straight sides. From middle level of Period II B.

*Type 61.* Thick bowl with a flat rim and slightly-convex sides. Coarse and gritty. From late level of Period II B.

*Type 62.* Small bowl with an incurved bevelled rim. From middle level of Period II B.

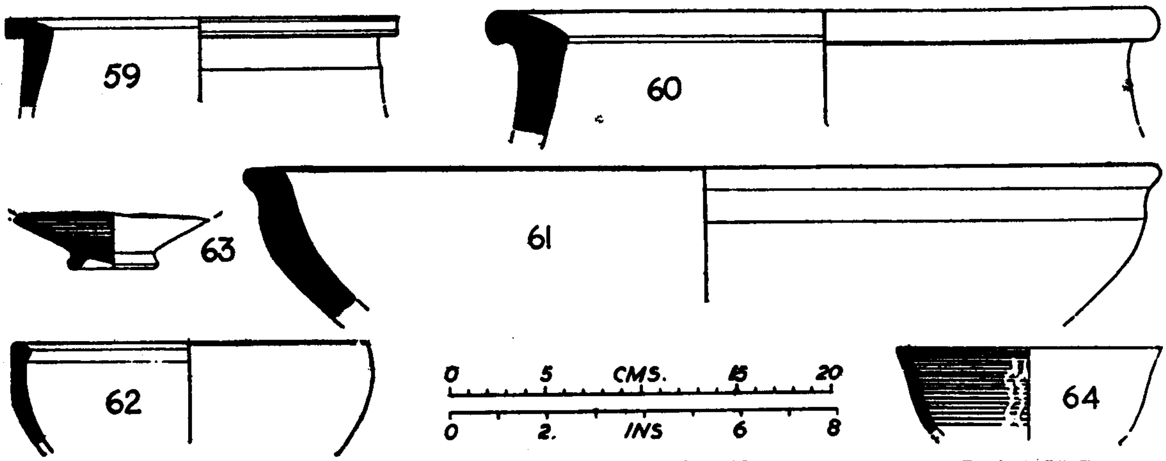



FIG. 31. *59-62, coarse grey ware, and 63 and 64, black-and-red ware, Period II B*

*Black-and-red ware*

Fig. 31

*Type 63.* Bowl with a ring-footed base and bulbous body. Surface burnished. From middle level of Period II B. Also occurs in red ware but painted.

*Type 64.* Bowl with a slightly-everted flaring rim. Painted with white wavy lines on the interior only. Exterior rough. From late level of Period II B.

*Painted and incised sherds*

Fig. 32

*B1.* Shoulder-part of a jar painted with wavy lines in the form of arches above a horizontal band in light black over a pink slip. From early level of Period II B. Pl. XX B, *1.*

*B2* Shoulder-part of a jar treated with a buff slip on the lower half and a red slip on the upper half. Painted in chocolate with fronds on loop, besides a horizontal band at the junction of the two slips. Fabric slightly coarse and surface rough. From middle level of Period II B. Pl. XX B, *3.*

*B3.* Sherd of a micaceous red jar with a smooth surface painted in deep black over red with oblique strokes and horizontal bands. From late level of Period II B. Pl. XX B, *2.*

*B4.* Sturdy sherd painted in black over red with hatched diamonds in a horizontal register over a horizontal band. From middle level of Period II B.

*B5.* Sherd painted in black over red with wavy lines between horizontal bands in groups. From late level of Period II B. Pl. XX B, *4.*

*B6.* Shoulder-part of a large storage-jar painted in chocolate over greenish slip below the neck and on the belly. Groups of three inverted loops springing from a horizontal band in the upper half. Sturdy ware. From middle level of Period II B.

*B7.* Thick sherd painted in light red with pellets between horizontal bands. From middle level of Period II B. Pl. XX B, *6.*

*B8.* Thick sherd painted in chocolate over a greenish-buff surface with a palm-leaf motif. From early level of Period II B.

*B9.* Thin sherd painted in chocolate over a creamy surface. A leaf-design is produced by hatching loops with vertical lines. Two leaves and two horizontal bands can be made out. From late level of Period II B.

*B10.* Sherd painted in chocolate over buff with horizontal bands, vertical lines and pellets. From early level of Period II B. Pl. XX B, *5.*

*B11.* Greenish sherd painted in chocolate with irregular circles and suspended loops. From middle level of Period II B.

*B12.* Dark-green sherd painted with light black horizontal bands. Overfired. From late level of Period II B.

*B13.* Thick sherd decorated by incised oblique notches in two rows, the upper one being thicker and deeper than the lower one. From late level of Period II B.

*B14.* Jar decorated with incised oblique lines over horizontal ones. From late level of Period II B.

*B15.* Sherd with three wavy deeply-incised lines. Gritty fabric. From middle level of Period II B.

*B16.* Sherd with multiple wavy incised lines. From middle level of Period II B.

*B17.* Sherd with multiple grooves and vertical rows of notches. From early level of Period II B.

*B18.* Sherd with two rows of finger-tip marks and incised oblique strokes in groups. From late level of Period II B.

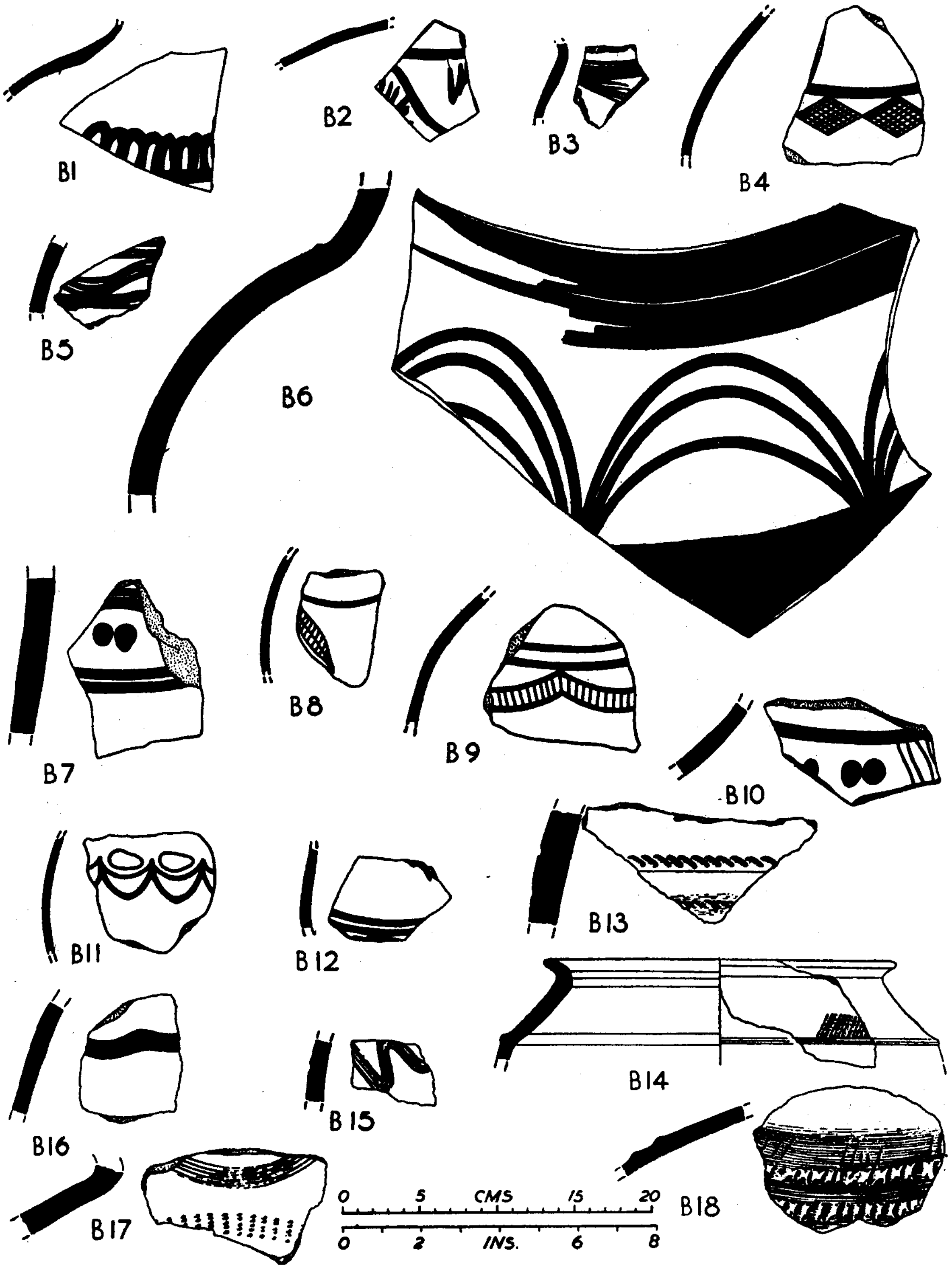



FIG. 32. *Painted and incised ware, Period II B*

### (v) *Period II C*

At first sight the pottery of Period II C appears to be different from the pottery of Period II B in composition, painting and shapes. But further careful examination will reveal an evolution in the technique of decoration and forms of vessels from Period II B to Period II C. The jar with a small neck develops a higher neck and an ovoid body in this Period (fig. 33, *1* to *6*). The fabric is coarse and painting mostly confined to the upper half of the vessel-surface. The thick storage-jar of Period II C does not undergo any major change except for a flaring neck and beaded rim (fig. 33, *6* to *8*). So far as the convex-sided bowl is concerned, types 10 to 13 of Period II C can be said to have been evolved from types 28 and 29 of Period II B. The bowl with straight sides develops a blunt or a sharp carination on the shoulder; its rim also becomes everted. These modified Harappan forms are noticed in the sturdy as well as in a slightly-coarser fabric. The dish with a projected rim and a prominently-carinated shoulder of Period II A (fig. 16, *18*) develops a beaded rim, and the carination also disappears slowly (fig. 33, *17*). Its fabric is coarser in Period II C than in Period II A, but the painted designs, viz. suspended loops, horizontal bands, etc., are not different.

The ceramic shapes of sturdy red ware of Periods II A and II B are noticeable in coarser red ware in Period II C, e.g., the dish-on-stand (fig. 34, *34*), bowl with blunt carination (fig. 34, *28*) and jar with high neck (fig. 34, *21*). These are only a few examples to show that the types evolved from those of Period II B are not confined to the sturdy fabric but occur in coarse ware also.

Three important types may be noted in the coarse grey ware. One of them is the spouted jar with a sharp-carinated shoulder and ring-footed base. The conception of having a spouted vessel is not new to Period II C. Spouts are found at Harappa and Lothal too. The other two types are the jar with bottle-neck and globular body (fig. 35, *55*) and the jar with a high neck and beaded rim (fig. 35, *56*). The small jar with a constricted neck is noticed in Period II A as in Lothal A and B.

Another ceramic ware of Period II C which is very distinct from the sturdy red ware and the coarse red ware of Period II A is the Lustrous Red Ware. It is termed as such on account of its lustrous red surface produced by the application of a red slip which is wet-smoothed. Generally, the fabric of the Lustrous Red Ware vessels is coarse, but examples of a lustre on sturdy wares are not totally lacking (fig. 34, *37* and *48*).

Most of the ceramic forms in the Lustrous Red Ware are evolved from those of the earlier Periods, as already explained above (p. 24).

Some bowls with a sharp-carinated shoulder are found to have a lustrous red exterior and a black interior. They are fired in the inverted-firing technique and are therefore considered to belong to the black-and-red ware group. At every stage of evolution of the ceramic types in the red ware, especially the micaceous red vessels, almost a corresponding evolution in the black-and-red ware vessels can be noticed in Periods II C and III (fig. 15). The black-and-red ware has assumed great importance in view of the fact it has a long survival from the mature Harappa period to the post-Harappa period, and even later, in Gujarat. It occurs in the chalcolithic levels at Navdatoli in central India, Ahar in Rajasthan and at Bahal and Daimabad in the Tapti valley in the second and first millennia B.C.

Vessels are more frequently painted in Period II C than in Period II B. The preference is for geometric designs but naturalistic motifs also occur. There is a marked tendency towards stylization which had already begun in Period II B. The running deer, for example, noticed at Harappa and Mohenjo-daro, where its body is hatched, is

conventionalized in Rangpur II C. Its body and legs are indicated by simple lines and the back-sweeping horns by wavy lines.

Birds are also conventionalized. The peacock was found stylized in Period II B as in Lothal B. The bull with a long muzzle and 'x'-shaped horns (fig. 34, *49*) from Period II C is similar to the bull from Cemetery H at Harappa,[1] but the eyes are not shown in the former.

Barring a couple of ceramic forms and not more than three or four painted motifs, all the ceramic forms and painted designs of Period II C are directly traceable to their Harappan counterparts. In brief, the ceramic industry of Period II C may be said to represent the Transition Phase of a degenerate Harappa culture noticed in Period II B (above, p. 23). It is, therefore, evident that the Harappa culture was not static and did not disappear suddenly; while showing signs of decay Period II B, in course of time it rejuvenated itself by reviving some of the earlier ceramic traditions and evolving new ones in the Transitional Phase, which, in fact, is the formative stage of a full-fledged Lustrous Red Ware culture. The schematization in painting noticeable at Harappa and Mohenjo-daro was in vogue in Rangpur II C (fig. 33, *12*). The motifs such as hatched rectangles and birds are repeated over and over again. To consider Rangpur II C as representing a new culture would amount to ignoring totally the Harappan traditions which account for more than seventyfive per cent of its ceramic forms and painted designs. Furthermore, tools, weapons and personal ornaments of copper and bronze of Period II C are essentially Harappan in character. Even terracotta beads were a copy of earlier faïence beads. Thus, the Harappan element is too strong to be ignored.

*Red ware*

Fig. 33

*Type 1.* Jar with a high neck and beaded rim in sturdy fabric. Smooth surface. Painted with a thick black bank over red. An example of an evolved form in sturdy fabric. From early level of Period II C.

*Type 2.* Jar with a flaring high neck, beaded rim and bulbous body. Painted with thick black bands over red on the rim and neck. Slightly coarse fabric. From middle level of Period II C.

*Type 3.* Jar with a flaring high neck and beaded grooved rim. Painted with a thick black band over red on the rim. Fabric coarse; lustre of the surface due to burnishing. From early level of Period II C.

*Type 4.* Jar with a high neck and beaded rim in coarse fabric. Red slip. From middle level of Period II C; occurs in Period III also.

*Type 5.* Jar with a ring-footed base in sturdy fabric; only lower part available. Red slip partially covering the surface. From early level of Period II C.

*Type 6.* Large jar with a wide mouth, flaring neck, beaded rim and bulbous body. Another example of a jar in sturdy fabric with a slight modification in form (cf. type 10 in red ware of Period II B). Walls thin, but no flange on the shoulder. Painted with black horizontal band over a red slip on the shoulder and a buff slip below. From earliest level of Period II C. Pl. XXI A, *1*.

*Type 7.* Thick jar with a flaring neck and heavy beaded rim in coarse fabric. Red slip partially flaked off. From intermediary level of Period II C.

*Type 8.* Storage-jar with an out-turned but flat rim and straight sides. Painted in black over red with inverted loops below horizontal bands. Thinner and smaller in size than its counterparts of Period II B. From late level of Period II C.

[1] Vats, *op. cit.* (1940), pl. LXII, *5*.

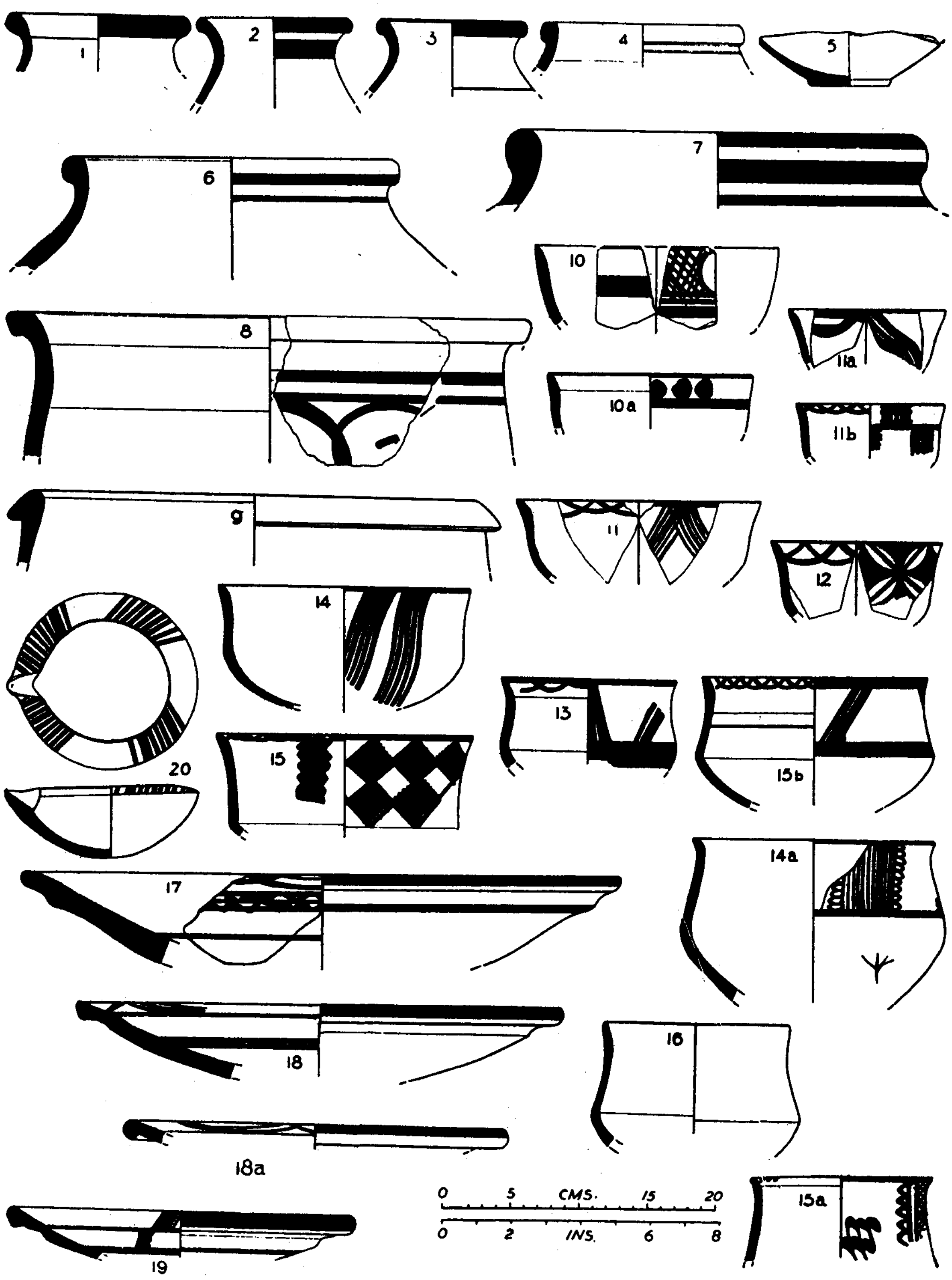



FIG. 33. *Red ware, Period II C*

*Type 9.* Bowl of medium thickness with a beaked rim and straight side. Rough surface. From late level of Periad II C.

*Type 10.* Bowl with a sharp rim and blunt-carinated short shoulder. Evolved from the bowl with straight sides of Period II B. Painted in black over red with cross-hatched circles. A thick horizontal black band on the interior. From early level of Period II C. *Variant 10a,* with an everted rim and blunt-carinated shoulder. Painted in black over red with roundels between horizontal bands.

*Type 11.* Bowl in superior fabric; example of evolution in form from the bowl of Period II B in coarse red ware. Prominently-everted rim and blunt-carinated shoulder, resulting in a concavo-convex profile. Painted in deep black over fine-red slip with flowing oblique lines in groups above a horizontal band. Internally rim painted with intersecting suspended loops. From early level of Period II C. *Variant 11a,* painted with flowing oblique lines in groups in black over red. Sturdy ware. From late level of Period II C. *Variant 11b,* painted with intersecting suspended loops on the interior of the rim and hatched rectangles on the exterior in black over fine-red slip. Sturdy ware. From middle level of Period II C.

*Type 12.* Bowl with an everted rim and blunt-carinated shoulder. Fabric coarse and surface rough. Painted on the exterior in black over lustrous red with elongated hatched diamonds enclosed in circle. Interspace also hatched, producing hatched half-diamonds. Interior painted with suspended intersecting loops. From early level of Period II C.

*Type 13.* Bowl with an everted rim and blunt-carinated shoulder. Painted in black oblique lines in groups on the exterior and suspended intersecting loops on the interior of the rim. The former design occurs at Jorwe.[1] From early level of Period II C.

*Type 14.* Large bowl in slightly coarse fabric with an everted rim, blunt-carinated shoulder and rounded base. Surface burnished to produce lustre. Painted in groups of five oblique lines flowing from top to bottom. Rough surface. From early level of Period II C. *Variant 14a,* with a rough surface. Coarse fabric. Painted in light black over light red with groups of vertical lines, enclosed by vertical wavy lines. Painting executed in the upper register in compartments. From middle level of Period II C.

*Type 15.* Large bowl with an everted rim and sharp-carinated shoulder in superior fabric. Painted in black over red with vertical rows of hatched diamonds on the exterior and groups of flowing wavy lines and closely intersecting suspended loops on the interior. Diamonds and flowing wavy lines are together painted on jars from Harappa and Lothal, but here these designs are painted separately. Further change in form as compared with the bowl of the earlier level of the same Period (type 11) is noticeable. Smooth surface and thick slip. From late level of Period II C. *Variant 15a,* in superior fabric painted with naturalistic and geometric designs. A row of highly-conventionalized birds and a vertical hatched panel enclosed by wavy lines painted in black over red on the exterior, and vertical storkes on the interior of the rim. A similar type painted with rows of stylized birds and graffito-mark below was found by Ghurye. *Variant 15b,* with concavo-convex profile. Painted with oblique lines in groups between horizontal bands on exterior, and intersecting loops on interior. From late level of Period II C. Cf. Jorwe.[2] Pl. XXI A, *6.*

*Type 16.* Bowl with a sharp everted rim and blunt-carinated shoulder in sturdy fabric. Plain and unslipped. From middle level of Period II C.

*Type 17.* Thick large dish of a dish-on-stand with a short rim and unpronounced carination on the shoulder. When compared with the dish of Periods II A and II B, the carination has almost disappeared and the rim is beaded. Painted with intersecting suspended loops and wavy lines between concentric bands. From late level of Period II B.

*Type 18.* Dish in coarse fabric with a beaded rim and without any carination. Painted in black over red with loops between horizontal bands on the rim in compartments. From late level of Period II C. Pl. XXI A, *7.* *Variant 18a,* with a beaded rim, painted in black over red with suspended loops. Sturdy ware but poor slip. From early level of Period II C.

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[1] H.D. Sankalia and S.B. Deo, *Excavations at Nasik and Jorwe 1950-51* (Poona, 1955), fig. 63, *23.*
[2] *Ibid.,* fig. 65.

*Type 19.* Dish with a beaded rim but carination not pronounced. Painted in chocolate over light buff with hatched rhombus and horizontal strokes. Internally grooved. Sturdy ware with smooth surface. From middle level of Period II C. Pl. XXI A, *4.*

*Type 20.* Lamp with a channel for the wick. Painted in black over red with strokes in groups across the rim. From late level of Period II C. Pl. XXI A, *9.*

*Coarse red ware*

Fig. 34

*Type 21.* Coarse red jar with a beaded rim and high neck. Painted with black horizontal band but colour flaked off. From early level of Period II C.

*Type 22.* Jar with a wide mouth, beaked rim and long neck. Burnished slightly. From early level of Period II C.

*Type 23.* Jar with a beaked rim and broad mouth. Painted with a thick band in black over a dull-red surface on the shoulder. From late level of Period II C.

*Type 24.* Jar with a flaring rim. Painted internally with black loops over a dull-red surface. Exterior burnished. From early level of Period II C.

*Type 25.* Jar with an elliptical profile and rounded base. Must have had a high neck. Slip flaked off due to weathering. From early level of Period II C. *Variant 25a,* with a beaded rim and high neck. From middle level of Period II C. Pl. XXI A, *8.*

*Type 26.* Small jar with thick walls, bulbous body and rounded base. Slipless. From late level of Period II C.

*Type 27.* Miniature jar with a beaded rim, blunt-carinated shoulder and disk-base. Painted with multiple black bands over a dull-red surface. From late level of Period II C.

*Type 28.* Large bowl with a blunt-carinated shoulder and rounded base. Painted on both surfaces with wavy lines in groups of five. From early level of Period II C. *Variant 28a,* with flat rim. Upper register painted with intersecting oblique lines forming a mesh-pattern. Rough surface. From early level of Period II C.

*Type 29.* Bowl with an everted rim and blunt-carinated shoulder. Painted in black over red with alternate triangles hatched in quadrants. Interior painted with loops. From early level of Period II C. *Variant 29a,* painted in black over red with horizontal bands between vertical lines in groups in alternate sectors and intersecting suspended loops on the interior. Red wash. From middle level of Period II C.

*Type 30.* Bowl with an everted rim and sharp-carinated shoulder. Fabric very coarse and surface rough. From middle level of Period II C. *Variant 30a,* smaller in size. From late level of Period II C.

*Type 31.* Large thick bowl with a flat projected rim and slightly-convex profile. Painted on the rim with a pinkish band and three thick lines across the rim on a red background. From late level of Period II C. Pl. XXI A, *3.*

*Type 32.* Small incurved shallow bowl painted on the interior with oblique lines and pellets over an irregular line on the exterior. Coarse, rough surface, hand-made. From early level of Period II C.

*Type 33.* Shallow dish with a beaded rim and slightly-carinated shoulder, rough surface, slipless. From late level of Period II C.

*Type 34.* Dish-on-stand with a small projected rim; carination almost disappeared; cylindrical stem smaller in size than that of Periods II A and II B. Very rough surface. From late level of Period II C. Pl. XXI A, *5.*

*Type 35.* Lamp with an internally-beaked rim. From middle level of Period II C.

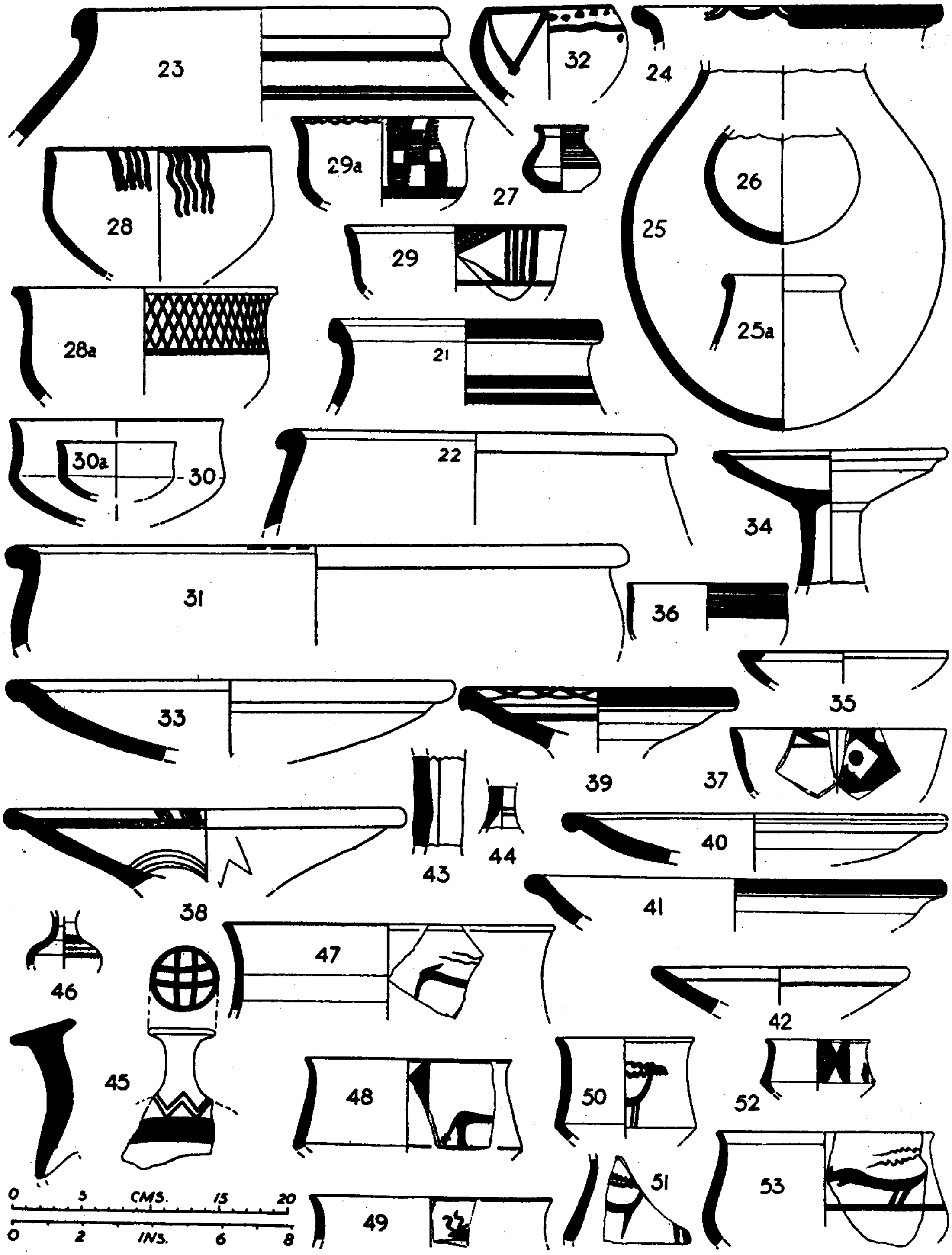



FIG. 34. *21-35, coarse red ware, and 36-53, Lustrous Red Ware, Period II C*

### *Lustrous Red Ware*

### Fig. 34

*Type 36.* Small bowl with an everted rim and blunt-carinated shoulder. Decorated by paring and painting with multiple parallel bands over the rim and shoulder in black over a shining red surface. From early level of Period II C.

*Type 37.* Bowl with thick walls, an everted rim and blunt-carinated shoulder. Painted on the exterior in black over a lustrous red surface with hatched alternate triangles enclosed by a quadrant to produce a lozenge-design. Pellet at the centre. Interior painted with suspended loops between horizontal bands. Sturdy ware with lustrous red surface. From middle level of Period II C.

*Type 38.* Deep dish of a dish-on-stand with a fully-beaded rim and without any carination on the shoulder. Painted in light-black with flowing wavy lines in groups on the rim and concentric circles in the centre. Graffito-marks on the exterior. Sturdy ware, smooth surface. From late level of Period II C.

*Type 39.* Dish of a dish-on-stand with a beaked rim. Painted in black over lustrous red surface with intersecting suspended loops and parallel bands. From middle level of Period II C.

*Type 40.* Dish with a beaded but internally-ledged rim. Lustrous pink in colour, burnished. From middle level of Period II C.

*Type 41.* Deep dish with a beaded rim and inconspicuous carination. Painted with black horizontal bands on the exterior. Lustre faded. From late level of Period II C.

*Type 42.* Deep dish with a featureless rim, lustrous red exterior and lustrous pink interior. From middle level of Period II C.

*Type 43.* Hollow cylindrical stem of a small dish-on-stand. Lustrous pink in colour. From early level of Period II C.

*Type 44.* Thin cylindrical stem of a miniature bowl or dish-on-stand. Painted with black horizontal band, slip flaked off. Coarse fabric. From late level of Period II C.

*Type 45.* Large bowl with a long stud-handle convenient enough to hold. The short handle of Period II A is now elongated. Painted in light black over lustrous red surface with intersecting bands on the handle and cross-hatched panel on the exterior surface of the vessel. Coarse fabric. From late level of Period II C. Pl. XXI A, *2*.

*Type 46.* Miniature jar with a bottle-neck and spherical body. Painted in black over red. From late level of Period II C; occurs in coarse grey ware also in this Period (fig. 32, *55*) and in Lustrous Red Ware in Period III.

*Type 47.* Bowl with an everted rim and possibly carinated shoulder painted with a running antelope design in black over lustrous red surface, wavy horns and raised tail indicating the speed of the animal. Sturdy fabric. From early level of Period II C. Pl. XXII B, upper row, right.

*Type 48.* Bowl with an everted rim and carinated shoulder. Painted in black over red with an animal-figure, possibly a bull, of which only the hind legs and long tail with a bunch of hair indicated by oblique strokes are visible. Hatched triangle also partially seen. Rim painted internally with vertical strokes. From early level of Period II C.

*Type 49.* Bowl with an everted rim. Painted in deep-black over red with a figure of an animal with 'x'-shaped horns and short ears, possibly a bull. From late level of Period II C. Pl. XXII B, upper row, middle.

*Type 50.* Bowl with a sharp-carinated shoulder and everted rim. Painted in deep-black over red with a deer-motif. Wavy horns, long neck and forelegs visible. Sturdy fabric. From late level of Period II C. Pl. XXII B, lower row, middle.

*Type 51.* Bowl painted with an antelope design in light black over red. Only horns and one foreleg visible. Highly stylized. From late level of Period II C. Pl. XXII B, lower row, left.

*Type 52.* Small bowl with an everted rim and sharp-carinated shoulder. Painted in light black with an antelope-figure having short raised tail and wavy horns and alternately hatched with full and half diamonds. From late level of Perod II C. Pl. XXII B, lower row, right.

*Type 53.* Bowl with an everted rim and blunt-carinated shoulder. Painted in light black over red with a running antelope-figure which has wavy horns, elongated body and raised tail. Sturdy fabric. From early level of Period II C. Pl. XXII B, upper row left.

*Coarse grey ware*

Fig. 35

*Type 54.* Spouted jar in dark grey ware with a flaring rim, concavo-convex profile and ring-footed base. Smoky core. From early level of Period II C.

*Type 55.* Small jar with a bottle-neck, bulbous body and rounded base. Cf. type 46 in coarse red ware. From late level of Period II C.

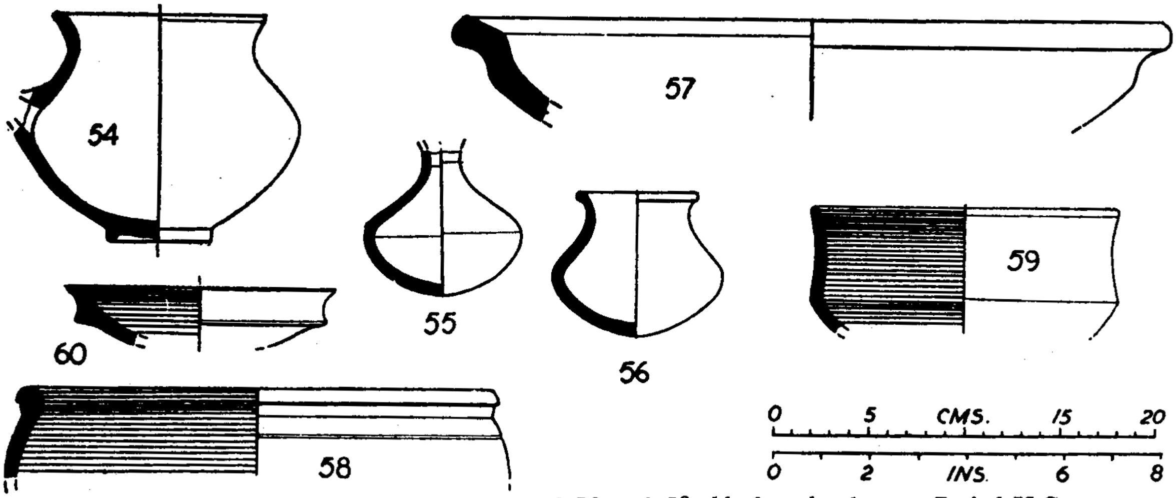



FIG. 35. *54-57, coarse grey ware, and 58 and 59, black-and-red ware, Period II C*

*Type 56.* Smaller jar with a beaded rim, raised neck, bulbous, carinated body and rounded base. Surface burnished. Also occurs in coarse grey ware of Period II A (cf. fig. 22, *121*). From late level of Period II C.

*Type 57.* Dish with a projected rim and slightly-carinated shoulder in gritty fabric. Burnished. From early level of Period II C.

*Black-and-red ware*

Fig. 35

*Type 58.* Jar with a beaked rim and bulbous body. From middle level of Period II C.

*Type 59.* Bowl with an everted rim and carinated shoulder. Exterior lustrous red and interior black. From early level of Period II C.

*Type 60.* Dish with a raised flat rim and flanged shoulder. Slip flaked off. From late level of Period II C.

*Painted sherds*

Fig. 36

*C1.* Sherd painted in black over red with wavy flowing lines below a horizontal band. From early level of Period II C; occurs in Lothal B also.

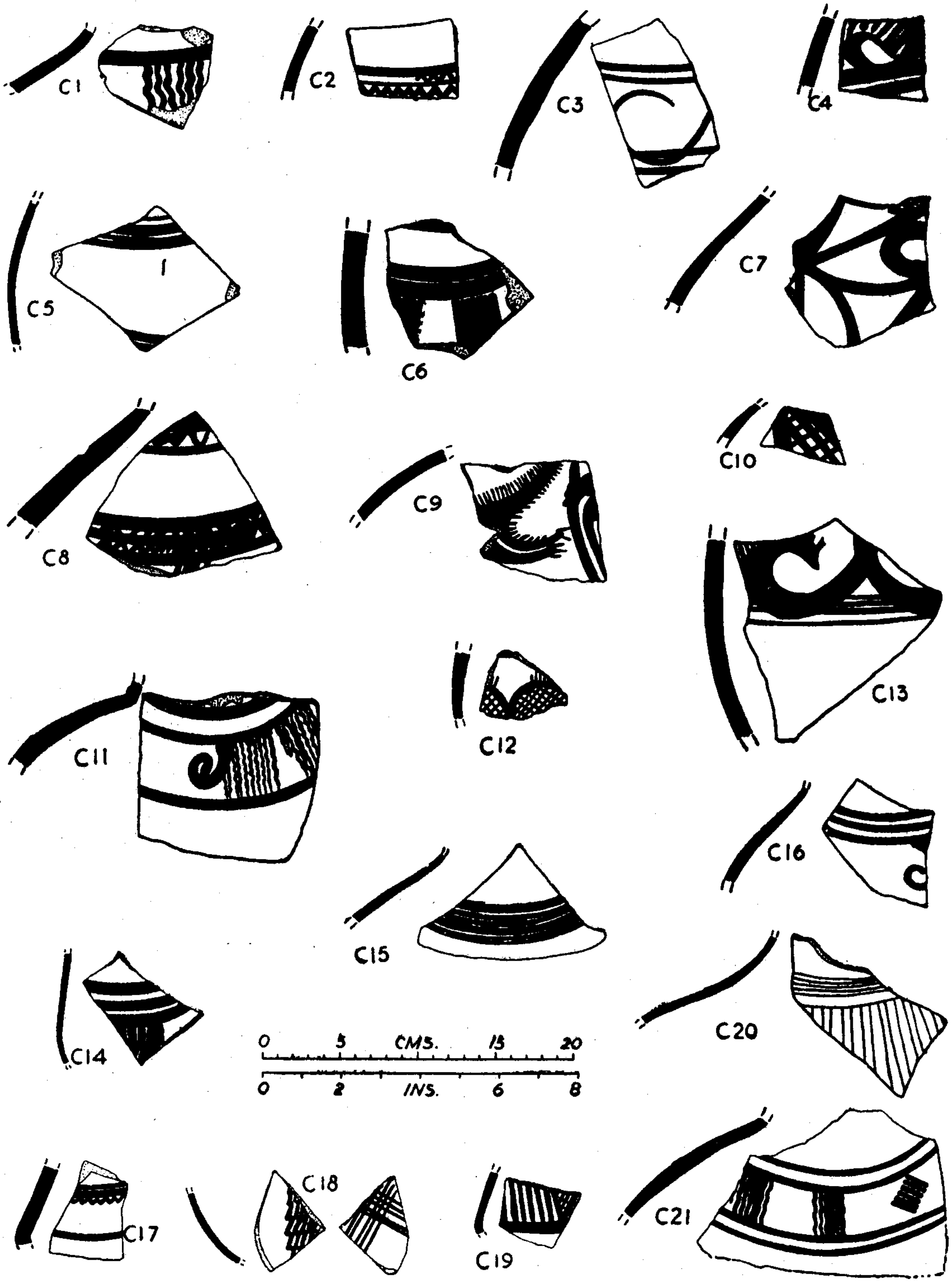



FIG. 36. *Painted sherds, Period II C*

*C2.* Sherd painted with zigzag lines between horizontal bands. Slip and painting in black partially flaked off. From late level of Period II C.

*C3.* Thick sherd painted in black over red and buff slips with loop and horizontal bands producing a bichrome effect. Coarse fabric. From early level of Period II C; occurs in Lothal B also.

*C4.* Sherd painted in black over red with loops and fronds over horizontal bands. Surface rendered smooth. From middle level of Period II C.

*C5.* Sherd in sturdy fabric prepared from well-levigated clay and treated with a fine red slip. Painted in black horizontal bands. From early level of Period II C.

*C6.* Portion of the neck of a jar in sturdy fabric. Painted with black horizontal bands and hatched rectangles. Pigment flaked off. From early level of Period II C; occurs in Lothal B also.

*C7.* Sherd of sturdy fabric painted over a pinkish slip with a tendril-like design. From early level of Period II C.

*C8.* Thick sherd of slightly coarse fabric. Painted in light black over a light-red surface with suspended loops, zigzag lines and oblique strokes between horizontal bands. Slip and paint partially flaked off. From early level of Period II C.

*C9.* Sherd painted in light black over red with thick black wavy bands and strokes on irregular lines. From middle level of Period II C.

*C10.* Sherd of superior fabric painted in deep black over deep red with a hatched triangle bounded by thick lines. From early level of Period II C.

*C11.* Shoulder-portion of a jar painted in light-black horizontal bands between multiple wavy lines in groups and a tendril-like loop-design. From late level of Period II C; occurs in Lothal B also. Pl. XXI B. *4.*

*C12.* Sherd painted in black over a lustrous red surface with hatched circles and fronds. From early level of Period II C; occurs in Lothal B also.

*C13.* Thick sherd painted in light-black over red with loops and fronds over horizontal bands. From early level of Period II C; occurs in Lothal B also . Pl. XXI B, *7.*

*C14.* Sherd painted in thick-black flowing wavy lines below horizontal bands over a deep lustrous red surface. From early level of Period II C.

*C15.* Sherd painted in light black over lustrous pink surface with multiple horizontal bands. Smoky core. From middle level of Period II C.

*C16.* Sherd painted with tendril-like loop suspended from horizontal bands. Cf. A *19* of Period II A. Pl. XXI B, *3.*

*C17.* Thick sherd painted in deep black over deep red with horizontal bands and wavy lines. Coarse fabric. From early level of Period II C.

*C18.* Sherd painted on the exterior with intersecting oblique lines in groups of five and on the interior with zigzag lines in black over red. From early level of Period II C; occurs in Lothal B also. Pl. XXI B, *5.*

*C19.* Sherd of a bowl painted in deep black over lustrous red with oblique lines and hatched triangle over horizontal bands. From middle level of Period II C. Pl. XXI B, *6.*

*C20.* Sherd painted with a black horizontal band. Also pared. From middle level of Period II C.

*C21.* Sherd of a large jar painted in black over a pink surface with vertical wavy lines and oblique strokes in groups of five between horizontal bands From middle level of Period II C; occurs in Lothal B also. Pl. XXI B, *2.*

### (vi) *Period III*

Once we understand the evolution of the ceramic wares of Period II C from those of Period II B, it is possible to appreciate the culmination of this process in the Lustrous

Red Ware culture. Though distinguishable from the Harappa culture on account of certain distinct ceramic types and the technique of treatment of vessels, the continuity of some of the Harappa shapes in their original form and others in a modified form should be noted. The bowl, both small and big, with or without a deep carination, non-carinated dish with a beaded rim, jar with high neck and stemmed bowl, which constitute the bulk of the vessels in the Lustrous Red Ware, occur in both Period II B and Period II C. The small bowl which occurs in Period II C is also numerous in Period III (cf. fig. 33, *12* and fig. 37, *23a*). The shallow bowl with a footed base (fig. 38, *28*) and jar with a high neck (fig. 37, *11* and *12*) are also found in the Lustrous Red Ware. Besides these types the dish becomes popular in Period III. It is mostly non-carinated and has a beaded rim (fig. 38, *34* and *35*). The dish-on-stand is very few in Period III but not totally absent (fig. 38, *41*). Some stands of the dish-on-stand are solid and corrugated, while others are not. Some others are very small in size (fig. 38, *43a*). They are in fact stems of small stemmed bowls, of which a couple of complete specimens and several incomplete ones are found. They are similar in shape to the stemmed bowls of Navdatoli and seem to have been evolved from the dish-on-stand of Rangpur or bowl-on-stand of Lothal and Harappa.[1] The deep carinated bowl with a ring-footed base (fig. 38, *29*) and that with a stem (fig. 38, *45* and fig. 39, *46*) are found in the coarse grey ware too. The small globular vessel with constricted neck (fig. 39, *48*) is similar to the one in coarse grey ware of Period II C (fig. 35, *55*).

A common type in the coarse red ware is the jar with a high neck and bulbous body. Some of the jars have thick walls and a smooth surface (fig. 39, *70*), while others have thin walls and a rough surface (fig. 39, *71*). Both the types are evolved from the jar with as mall neck and globular body found in Periods II B and II C (fig. 33, *1-5*). The large storage-jar with straight walls and a beaded rim is evolved from the sturdy jar with a projected rim noticed in red ware in Period II C (fig. 33, *6-8*). The bowl of medium size and varying depths (figs. 42 and 43, *82-90*) and corrugated stand of the dish-on-stand (fig. 43, *96* and *97*) are among the important types in this ware. Corrugated stands are found at Mohenjo-daro also.[2] The lamp of this Period found in coarse red ware (fig. 43, *102*) is different from the characteristic Harappa lamp. One of them is sturdy and is treated with a red slip (fig. 40, *102a*). It should be noted, however, that a few of the vessels are fairly sturdy.

The number of coarse grey vessels is more in Period III. The stemmed bowl (fig. 45, *140*), jar with a convex profile and rounded base (fig. 45, *127*), storage-jar with a flanged shoulder (fig. 45, *136*) and deep bowl with tapering sides (fig. 45, *143*) are some of the important types in coarse grey ware. Vessels are decoarated with incised designs. Some vessels are stamped with floral and geometric designs and occasionally treated with a red slip.

Painting is normally confined to the upper half of the vessels in this Period. The slip used for the background is lustrous red or pink. In the case of the black-and-red ware the painting is executed in white over a black background. In other cases the colour-scheme is black over red. The designs are mostly linear and geometric, e.g. horizontal, vertical, wavy and oblique lines in groups, inverted and suspended loops, hatched diamonds, triangles and rectangles, ladders, intersecting circles, etc. Vessels are painted in hatched horizontal registers in Periods II C and III, as at Harappa.[3] Among painted animal-motifs are the deer, bull and duck. Leaf, creeper, fish-net and fronds are other

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[1] R. E. M. Wheeler, *op. cit.* (1947), p. 100 and fig. 12, *II-IIf*.
[2] Marshall, *Mohenjo-daro and the Indus Civilization* (London, 1931), III, pl. LXXIX, *16*.
[3] Wheeler, *op. cit.* (1947), p. 105 and fig. 15, *XIg-h*.

naturalistic motifs. Animal-figures and foliage are more stylized in Periods II C and III than in Period II A or II B. The bull with 'x'-shaped horns and row of ducks are new in Period III, while all the rest are traceable to earlier periods. Ghurye has also illustrated a carinated bowl painted in black over red with a row of stylized ducks.

It was assumed till recently that the technique of inverted firing producing a black colour on the interior and red on the exterior of the vessels was known only to the megalithic folk in south India. But recent excavations have pushed back its date owing to its occurrence in different levels ranging from the Harappan times down to the period of the Northern Black Polished Ware at several sites in India. It is found at Rupar, Bara, Rer, Chak 86, Hastināpura, Alamgirpur, Kauśāmbī, Sonpur, Śrāvastī, Lothal, Rangpur, Somnath (Prabhas), Maheswar, Nagda, Ujjain, Ahar, Bahal, etc. Its occurrence in the Harappan and Late Harappan levels at Lothal and Rangpur and in the Transition Phase and the Lustrous Red Ware Period at Rangpur and other sites in Gujarat provides an important link with chalcolithic cultures of central India and the Deccan, where it was a very popular ware. It is reported from Rupar[1] and Kot Diji[2] in the Harappan levels and at all the Painted Grey Ware sites in the Ghaggar and Sutlej valleys. It occurs in the Ganga-Yamuna Doab along with the Painted Grey Ware at Alamgirpur. Though the technique of inverted firing is the same at all the sites where the black-and-red ware vessels occur, the shapes of vessels vary from site to site, but they closely follow the shapes in other wares of a given site. Normally the exterior of the black-and-red ware vessels, excepting the rim and shoulder-portions, is fired under oxidizing conditions and the interior under reducing conditions. The colour of the vessels varies from deep black and red in the megalithic fields of south India to light black to grey and tan to brown at Bahal and cream in Maheswar and Nagda. At Lothal and Rangpur the vessels are mostly black and red and have a smooth shining surface. They are of a superior fabric. The black-and-red ware of Ahar is rather black and brownish in colour in Period I and black-and-red in Period II. As already stated, the shapes of the vessels are similar to those of the major ceramic wares of a particular period to which the black-and-red ware belongs (fig. 15). This fact is fully borne out at Lothal and Rangpur. The black-and-red ware is found in a very limited quantity at Nagda and Navdatoli also. One of the bowls from Navdatoli is more or less analogous in shape to the Rangpur bowl (fig. 44, *113*). It has been suggested by some scholars that the black-and-red ware might have infiltrated into Lothal and Rangpur from Ahar, where it is found in very large quantities in a 20-ft. thick cultural deposit, but unless it is proved that the black-and-red ware occurs as early as 2450 B.C. at Ahar it should be presumed that it was known earlier at Lothal and Rangpur than at Ahar.[3]

The black-and-red ware was the result of a variation in the technique of firing of a major ceramic industry of the site. Vessels of the same shape and fabric were subject to two different techniques of firing at Lothal and Rangpur, resulting in the red ware and black-and-red ware (fig. 15, *6-10a*). The black-and-red ware bowl of Period II of Rangpur is slightly convex-sided, closely resembling the convex-sided bowl in the red ware (fig. 15, *5* and *5a*). In Period II B it developed straight sides and a thick featureless rim, closely following the bowls in the red ware (fig. 31, *63* and *64*). Both developed simultaneously a concavo-convex profile with a blunt-carinated shoulder in Period II C and a

[1] Information from Dr. Y. D. Sharma.

[2] Found in the collection of the Prince of Wales Museum, Bombay.

[3] The Carbon-14 date for Ahar is 3750 ± 125 B.P. [The recent re-excavation at Ahar will necessitate a re-assessment of the material. This remark applies to all observations on Ahar in this article.-Ed.]

deep-carinated shoulder in Period III (fig. 15, *11* and *13*). Some of them have a footed base (fig. 15, *11a*, *13a*, *14* and *14a*). Even the treatment of the surface of the vessels of the black-and-red ware closely follows that of the micaceous red ware or the Lustrous Red Ware. The red ware and the black-and-red ware vessels of Ahar I A and Ahar I B have similar shapes.

The black-and-red ware was a chief ceramic product in the Ghaggar valley along with the Painted Grey Ware. It assumed importance in central India and the Tapti valley in late chalcolithic times. Lothal is the earliest-known chalcolithic site in India where the black-and-red ware is found throughout the occupation. Whereas at Lothal the black-and-red ware is noted for its simple forms, such as the bowl with an incurved or slightly-everted rim or with stud-handle, the bowl from the early levels of Ahar I A is beaded below the rim which is sometimes prominently everted.[1] A flange occurs on the exterior in the absence of any beading. The painting is executed in white on both the surfaces of the Ahar vessels, with simple dots between parallel lines, spirals, etc. The zonal conception in painting is a remarkable feature of Ahar, which, however, is not to be found on the black-and-red ware of Lothal. On the other hand, the Lothal designs are elementary, viz. strokes and wavy lines. The painting is confined to the interior of the vessels, whereas at Ahar it is done on both surfaces or the exterior only. Intricate designs such as lozenges juxtaposed to each other enclosing spirals between them are introduced in the late levels of Ahar I A. The vessels are slightly convex-sided and deep. The bowl of Ahar I B is not as deep as in Ahar I A, but it is carinated at the shoulder as in Rangpur III. The painting is confined to the exterior and the complicated designs of the earlier phase are replaced by simpler ones such as dotted lines in herring-bone pattern. The vessels tend to be black and creamy in colour in Ahar I B, whereas they were black and red in Ahar I A. Thus, it is clear that it is only the technique of inverted firing that is common to Ahar I A, Lothal and Rangpur II A, while the forms of vessels and painted designs are different.

Contact between Rangpur III and Ahar I B is suggested by the occurrence of the black-on-red painted sherds and a high-necked jar with a beaded rim and lustrous red surface in Ahar I A and I B. Even the conception of carination at the shoulders appears to be an external influence, possibly from Rangpur II C or III, when the carinated bowl evolved gradually.

### *Lustrous Red Ware*

Fig. 37

*Type 1.* Jar with a beaked rim and high neck painted with black horizontal bands over lustrous red. From late level of Period III.

*Type 2.* High-necked jar with a bulbous body. Painted in black over lustrous red surface with horizontal bands, intersecting lines with dots and irregular wavy lines on the neck and loops with fronds on the shoulder. From middle level of Period III.

*Type 3.* Jar with a thick beaded rim and bulbous body painted with black horizontal band on lustrous red. From late level of Period III.

*Type 4.* Jar with a splayed rim, grooved neck and bulbous body in very coarse fabric. From late level of Period III.

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[1] I am grateful to Shri R. C. Agrawal for having kindly permitted me to study his excavated material. The observations made above are purely provisional, and the phases mentioned here are those assigned by him. The phases assigned by H. D. Sankalia and others in their recent excavation are different. [See p. 108, n. 3—Ed.]

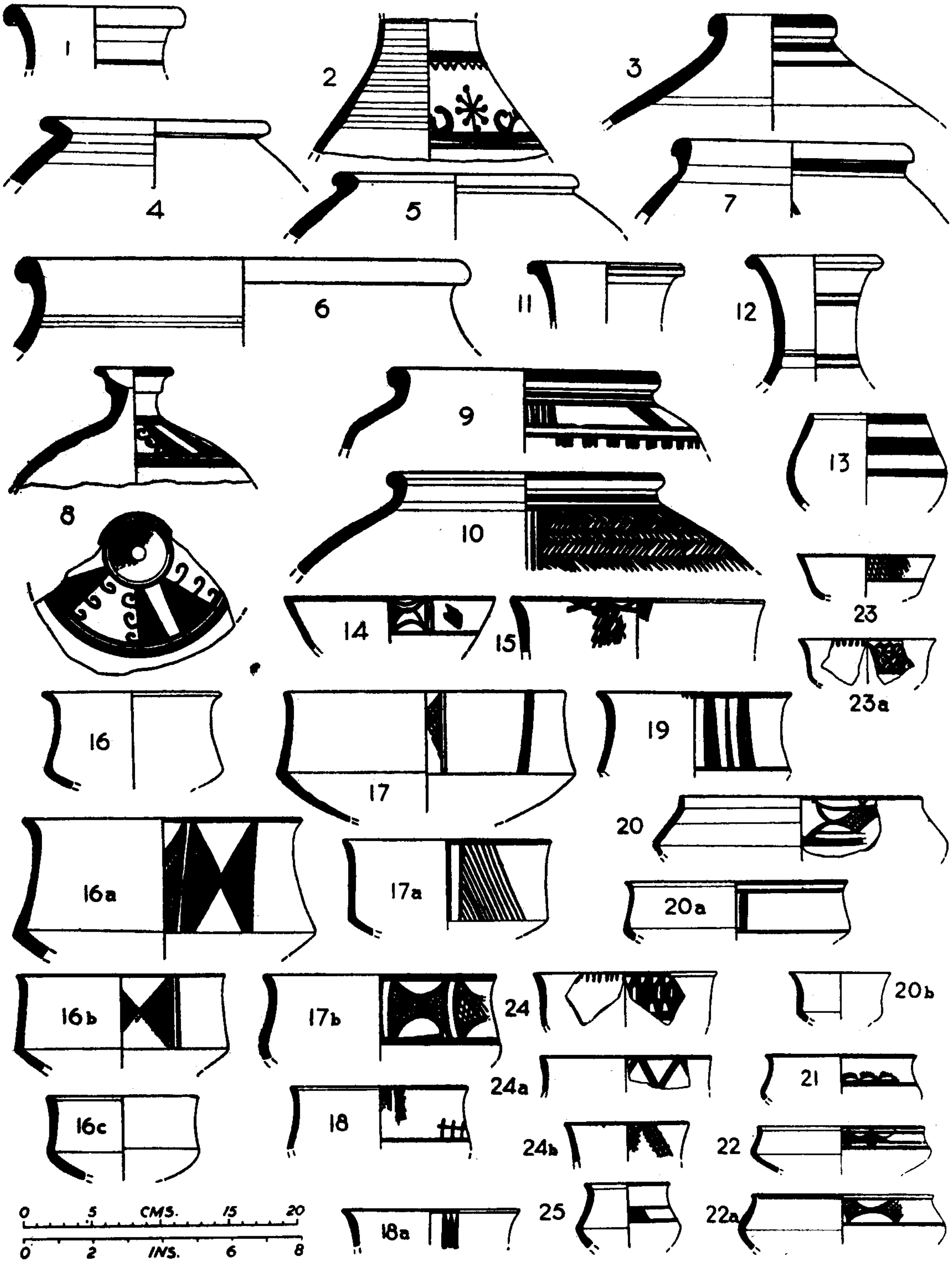



FIG. 37. *Lustrous Red Ware, Period III*

*Type 5.* Large jar with a thick beaked rim and bulbous body in coarse fabric. From late level of Period III.

*Type 6.* Jar with a heavy beaded rim and long neck. From late level of Period III.

*Type 7.* Jar with a beaked grooved rim and bulbous body. Painted in black horizontal bands over a lustrous red surface but the slip has flaked off in places. From late level of Period III.

*Type 8.* Jar with a bottle-neck, projected rim and bulbous body. Painted in black over red across the rim with strokes. On the shoulder a fish-net design with hooks is painted between horizontal bands. From middle level of Period III. Pl. XXIII A, *9.*

*Type 9.* Jar with a wide mouth, beaded rim and carinated shoulder. Painted in black over lustrous red surface with horizontal bands on the rim, vertical lines in groups of five between horizontal bands on the shoulder, and hatched between vertical lines at close intervals on the belly. Coarse fabric. From late level of Period III.

*Type 10.* Jar with a wide mouth, beaded rim and bulbous body. Painted in black over red with horizontal bands over the rim and neck and herring-bone pattern on the shoulder. From middle level of Period III. Pl. XXIII A, *13.*

*Type 11.* Jar with a high neck and partially-beaded splayed rim. Pinkish lustrous slip. From early level of Period III.

*Type 12.* Jar with a very high neck, beaded rim and probably a convex profile. Painted in black over pinkish lustrous surface with horizontal bands. From middle level of Period III.

*Type 13.* Bowl with a featureless rim and blunt-carinated shoulder. Painted in deep black over lustrous red with horizontal bands in groups of three, five and two. Paring-marks visible. From early levels of Period III; occurs in Period II C also.

*Type 14.* Bowl with flaring sides. Painted in black over red with suspended and inverted loops between horizontal bands and compartmented by vertical lines. Hatched triangle also noticed. From middle level of Period III.

*Type 15.* Bowl with an everted rim and possibly with a sharp-carinated shoulder. Painted on the interior in black over lustrous red surface with intersecting loops suspended from a horizontal band and also multiple wavy lines. Black oblique lines and graffiti seen on the exterior. Sturdy fabric. From earliest level of Period III.

*Type 16.* Bowl with an everted rim, sharp-carinated shoulder and possibly rounded base. Deep lustrous red surface. From middle level of Period III. *Variant 16a,* in coarse fabric painted in black over red with alternate triangles hatched in quadrants. From late level of Period III. Pl. XXIII A, *5.* *Variant 16b,* with a carinated shoulder and treated with thick lustrous red slip. From late level of Period III. *Variant 16c,* with a featureless rim. From late level of Period III.

*Type 17.* Bowl with an everted rim and sharp-carinated shoulder. Painted on the exterior with vertical black lines and hatched triangle on pinkish slip. From early level of Period III. *Variant 17a,* painted in light black with multiple oblique lines and vertical bands. From middle level of Period III. *Variant 17b,* painted in light black over a deep-red lustrous surface with elongated hatched triangles joined together; looks like an open fish-net. From middle level of Period III.

*Type 18.* Bowl with an everted rim and blunt-carinated shoulder. Painted in black over lustrous red surface with horizontal strokes across vertical lines and hatched ladder-design. From early level of Period III. *Variant 18a,* painted with three black vertical lines on the belly and a horizontal band on the rim. Coarse fabric. From middle level of Period III.

*Type 19.* Bowl with a flaring rim and possibly deep-carinated shoulder. Painted in deep black over lusrous red surface with vertical bands and hatched ladders. From middle level of Period III.

*Type 20.* Small bowl with an everted rim and sharp-carinated shoulder. Painted in black over a lustrous red surface with elongated hatched diamonds between horizontal bands above the shoulder and a horizontal line on the interior of the rim. From middle level of Period III. *Variant 20a,* with a projected rim and sharp-carinated shoulder. Painted in deep black over a deep lustrous red surface with hatched ladder-design. From early level of Period III. *Variant 20b,* with a sharp carination but unpainted. From late level of Period III.

*Type 21.* Small shallow bowl with very thin walls, everted beaded rim and sharp-carinated shoulder. Painted in black over a lustrous red surface with inverted loops and fronds over a horizontal band in eyelash-design. From late level of Period III.

*Type 22.* Miniature shallow bowl with an everted rim and sharp-carinated shoulder. Painted in deep black over deep lustrous red surface with horizontal bands, suspended and inverted loops and hatched diamonds. From late level of Period III. *Variant 22a*, slightly deeper and painted as above. From early level of Period III.

*Type 23.* Miniature bowl with a flaring rim and blunt-carinated shoulder. Painted in black over red with a hatched panel on the shoulder and a horizontal band on the rim. Resembles mesh-design. From middle level of Period III. *Variant 23a*, with an everted rim. Painted in black over a deep-red lustrous surface with honeycomb-design on the exterior and vertical strokes on the interior of the rim. From early level of Period III; the design also occurs in Period II A, Harappa and Lothal A.

*Type 24.* Bowl in superior fabric with an everted rim and blunt-carinated shoulder. Painted on the exterior in deep black over a lustrous red surface with hatched rectangles between triangles and horizontal bands. Vertical strokes painted on the interior. From middle level of Period III. *Variant 24a*, painted in black over red with a horizontal band from which regularly-interspaced sets of double zigzag lines are drawn. From early level of Period III. *Variant 24b*, with a flaring rim. Painted in black over red with oblique lines in groups of three and horizontal strokes across them producing a mesh-design. From middle level of Period III.

*Type 25.* Small bowl with an everted rim and sharp-carinated shoulder. Painted in black over a lustrous red surface with multiple oblique lines in groups between horizontal bands on the shoulder. From late level of Period III. Pl. XXIII A, *8*.

Fig. 38

*Type 26.* Bowl with a beaked rim and convex profile. Lustrous slip flaked off. From late level of Priod III.

*Type 27.* Bowl with a projected rim, carinated shoulder and rounded base. Lustre faded in places. From middle level of Period III.

*Type 28.* Large bowl with a ring-footed base and sharp-carinated shoulder. Surface lustrous red. From early level of Period III. Pl. XXIII A, *10*.

*Type 29.* Large deep bowl with a sharp-carinated shoulder and ring-footed base. From early level of Period III.

*Type 30.* Small shallow bowl with an everted rim and sharp-carinated shoulder. Painted in black over a lustrous red surface with multiple vertical lines between horizontal bands on the shoulder. From late level of Period III. *Variant 30a*, painted in black over a lustrous red surface with zigzag lines between horizontal bands on the exterior and a horizontal band on the interior of the rim. From late level of Period III.

*Type 31.* Basin with a wide mouth, thick walls, flat and externally grooved rim and blunt-carinated shoulder. Painted with white strokes across the rim over a lustrous red slip. From early level of Period III. *Variant 31a*, shallow and unpainted. From late level of Period III. *Variant 31b*, deeper and larger in size and the carination of the shoulder not pronounced. From early level of Period III. *Variant 31c*, with an everted rim and carinated shoulder. Painted with elongated hatched diamonds. From middle level of Period III.

*Type 32.* Basin with a flat rim and convex profile. Slip flaked off. No lustre. From early level of Period III. *Variant 32a*, larger in size and rim splayed. From late level of Period III.

*Type 33.* Small bowl with thick walls, a beaded rim and carinated shoulder. From late level of Period III. *Variant 33a*, with a flat rim. Painted in black over lustrous red surface with strokes across the rim and horizontal bands on both surfaces. From middle level of Period III. *Variant 33b*, with a projected rim and carinated shoulder.

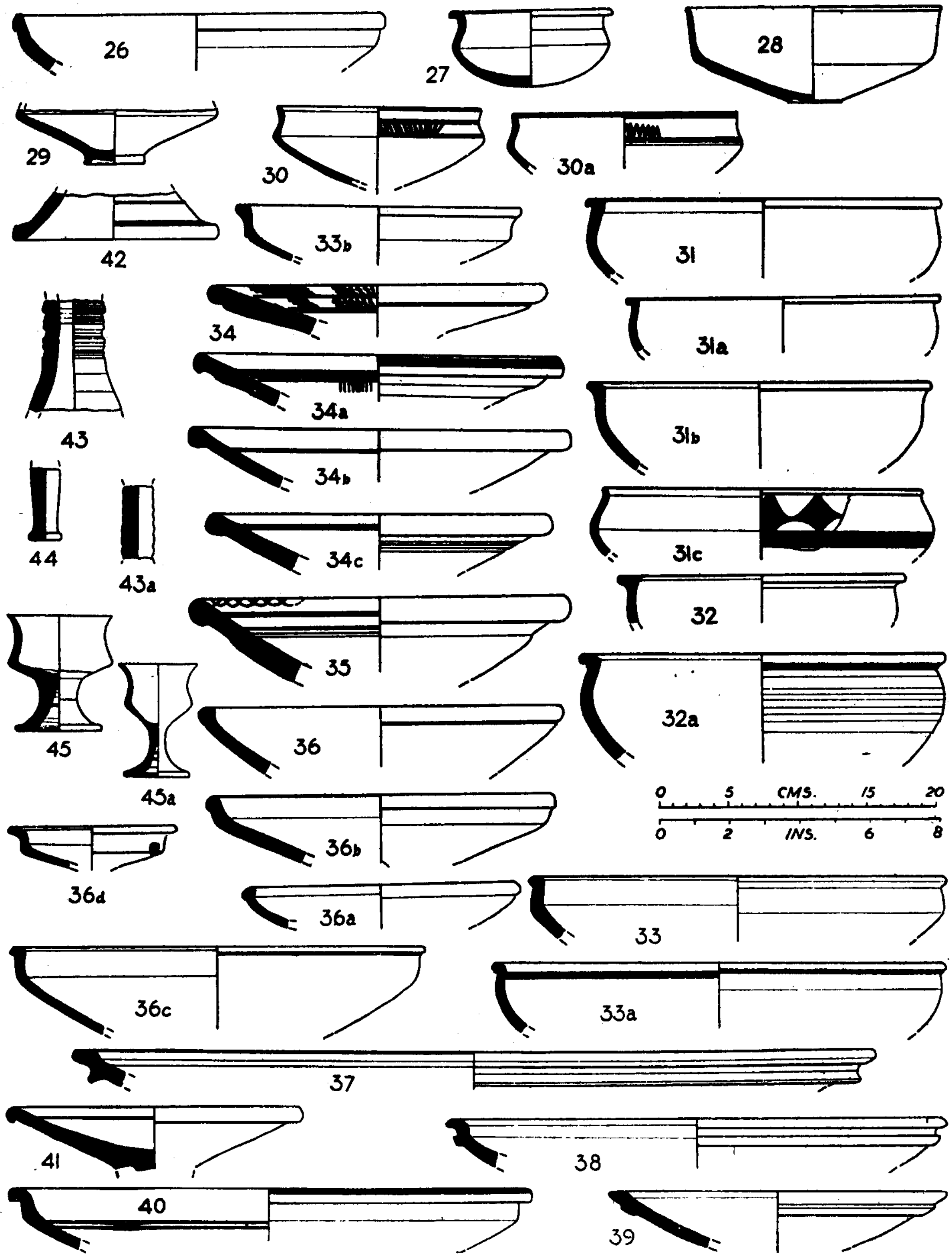



FIG. 38. *Lustrous Red Ware, Period III*

*Type 34.* Dish with an externally-grooved beaded rim, non-carinated shoulder and ridged interior. Painted in black over red with multiple wavy lines in groups and concentric circles. The rim not projected externally as in Period II A nor the shoulder carinated as in Periods II A and II B. From middle level of Period III; also occurs at Navdatoli. *Variant 34a,* of superior fabric. Painted with black wavy lines and concentric circles. Sturdy fabric. From early level of Period III. *Variant 34b,* slightly deeper; with lustrous chocolate slip but unpainted. From early level of Period III. *Variant 34c,* with a grooved interior and lustrous red surface. From middle level of Period III.

*Type 35.* Thick dish with a non-carinated shoulder, beaded rim and grooved on the interior. Painted with intersecting loops and horizontal bands on inner surface. Evolved from type 31 of Period II B, which has a projected rim and carinated shoulder, as also type 20 of Period II C, which has a beaded rim and slight carination. From late level of Period III.

*Type 36.* Deep dish with a beaded rim. Lustre on exterior. From early level of Period III. *Variant 36a,* smaller in size. From early level of Period III. *Variant 36b,* with a beaded rim. From early level of Period III. Pl. XXIII A, *12.* *Variant 36c,* with a splayed rim and pinkish colour. From late level of Period III. *Variant 36d,* with a splayed rim. Small size. From middle level of Period III.

*Type 37.* Dish with a projected grooved rim and flanged shoulder Painted in black over a lustrous red surface. From late level of Period III.

*Type 38.* Dish with a splayed beaked rim and cordoned shoulder. Coarse fabric. From late level of Period III.

*Type 39.* Dish with a splayed rim and flanged shoulder. Coarse fabric. From early level of Period III.

*Type 40.* Dish with a projected beaked rim and carinated shoulder. Painted in black over red with horizontal bands. Closely-pared interior with lustre. From early level of Period III.

*Type 41.* Dish of a dish-on-stand with a beaded rim. Portions of the stand visible From early level of Period III.

*Type 42.* Base of a dish-on-stand with a beaded rim. Coarse fabric and slip imperfectly applied. From middle level of Period III.

*Type 43.* Corrugated hollow stem of a dish-on-stand. From middle level of Period III. *Variant 43a,* with a thin corrugated hollow stem. A miniature representation of bowl-on-stand. From middle level of Period III.

*Type 44.* Thin solid stem of a bowl or dish-on-stand. From early level of Period III.

*Type 45.* Stemmed bowl with a carinated shoulder. From early level of Period III; occurs in coarse grey ware also. *Variant 45a;* with an everted rim. From early level of Period III.

Fig. 39

*Type 46.* Carinated bowl with a high pedestal-base. Deep lustrous red surface. From middle level of Period III. *Variant 46a,* with an elongated pedestal-base.

*Type 47.* Stemmed bowl. From early level of Period III.

*Type 48.* Small globular vessel with a constricted neck and lustrous red surface. From early level of Period III; occurs in Period II A and Lothal B. Pl. XXIII A, *4.*

*Lustrous Red Ware vessels painted with animal-figures*

Fig. 39

*Type 49.* Bowl painted with deer-motif in deep black over red. Forelegs and wavy horns of the deer are visible. Another set of horns suggests a second deer. From early level of Period III. Pl. XXIII B, *5.*

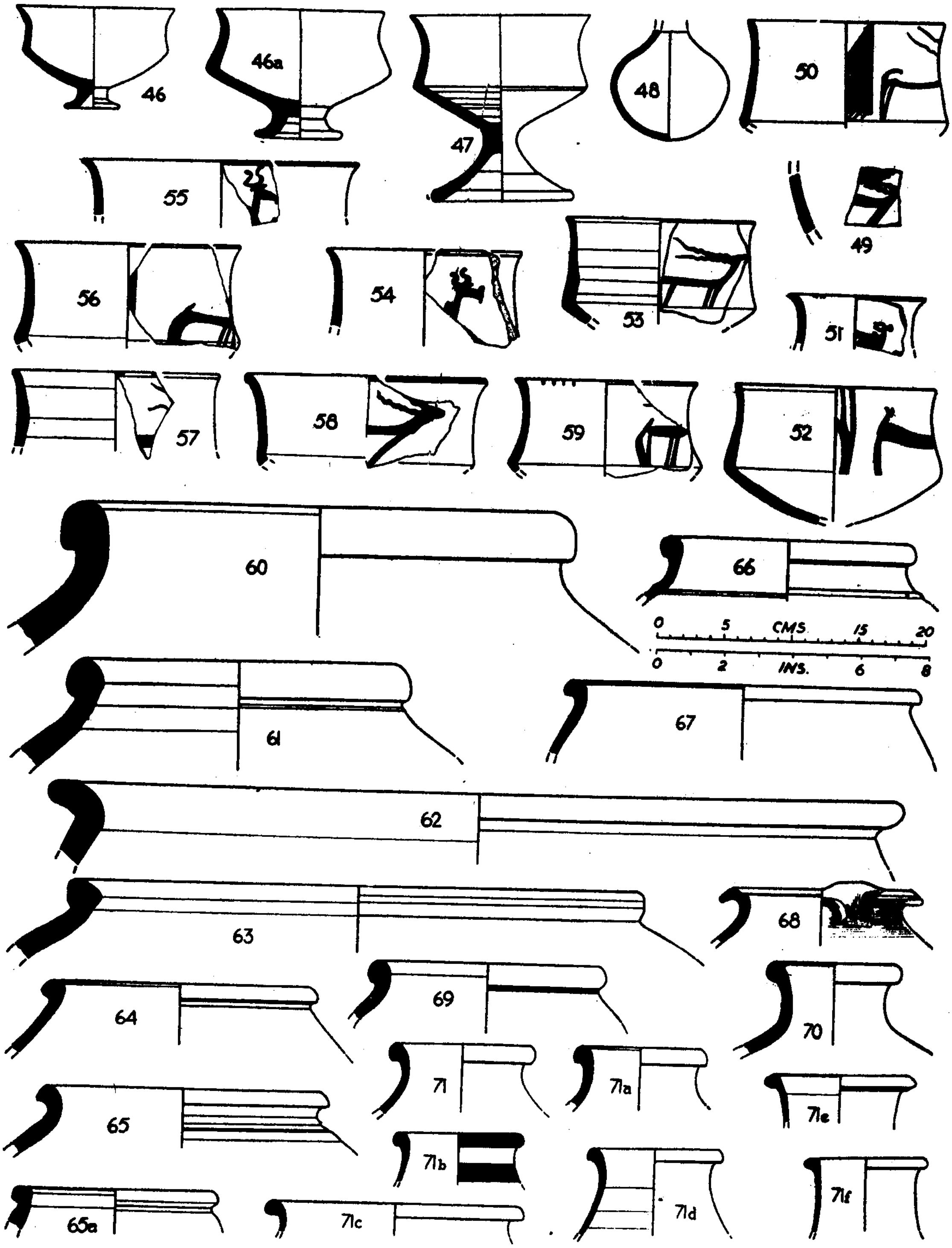



FIG. 39. *46-48 Lustruous Red Ware, 49-59, vessels painted with animal-figures, and 60-71f, coarse red ware, Period III*

*Type 50.* Bowl with an everted rim painted in light black over light red with a highly-conventionalized deer-motif. Wavy horns, hind legs, raised tail of the animal and a hatched triangle visible. From early level of Period III. Pl. XXIII B, *1.*

*Type 51.* Bowl with an everted rim. Painted with a conventionalized bull-motif. Beautiful 'x'-curved horns, and long muzzle. Bears close resemblance to the figures of bull painted on Cemetery H vessels, but the eyes are not prominent on the Rangpur figure. Rim painted with vertical black strokes in sets of two on a horizontal band. From middle level of Period III. Pl. XXIII B, *6.*

*Type 52.* Sharp-carinated bowl painted in black over red with an animal-figure which may represent a deer. Hind legs and raised tail visible. From early level of Period III.

*Type 53.* Carinated bowl painted with a deer-motif. Wavy horns, long neck and raised head visible. From middle level of Period III. Pl. XXIII B, *3.*

*Type 54.* Carinated bowl with an everted rim. Painted in black over red with an animal-figure which may represent a bull as indicated by the hump and muzzle. 'X'-shaped horns, ears and long muzzle resembling those of bulls from Cemetery H (fig. 40), but prominent eye not shown. From late level of Period III. Pl. XXIII B, *4.*

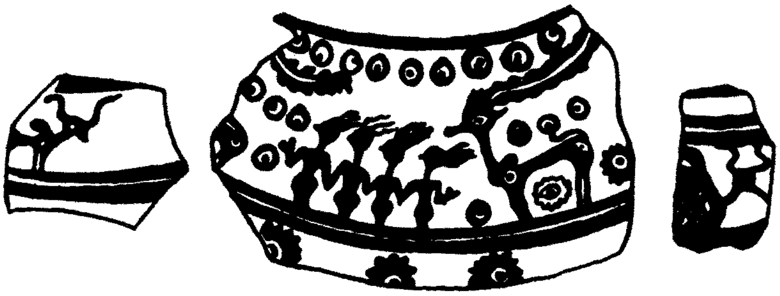


FIG. 40. *Harappa, Cemetery H: painted designs comparable with those of Rangpur III*

*Type 55.* Carinated bowl with an everted rim painted in chocolate over dull red with figure of a bull as in type 54. From middle level of Period III. Pl. XXIII B, *8.*

*Type 56.* Carinated bowl with an everted rim. Painted in light black over lustrous red with deer-motif. Tail raised as in the deer in Nagda I. From early level of Period III. Pl. XXIII B, *9.*

*Type 57.* Bowl painted with a deer-motif. Wavy horns visible. Pl. XXIII B, *7.*

*Type 58.* Bowl painted in black over red with deer-motif. Foreleg, long neck and horns seen. Vague affinity with deer-motif in Nagda I. From late level of Period III. Pl. XXIII B, *2.*

*Type 59.* Bowl with an everted rim. Painted in black over lustrous red with a deer-motif. Rim internally painted with vertical strokes. From early level of Period III. Pl. XXIII B, *10.*

### *Coarse red ware*

Fig. 39

*Type 60.* Thick jar with a heavy beaded rim and bulbous body. Fabric coarse and gritty. From early level of Period III.

*Type 61.* Thick jar with a heavy beaded rim and bulbous body. Smaller in size and of cream colour. Fabric sturdy. From middle level of Period III.

*Type 62.* Thick jar with a projected rim and bulbous body. Burnished on the rim. From middle level of Period III.

*Type 63.* Jar with a splayed rim and bulbous body. From early level of Period III.

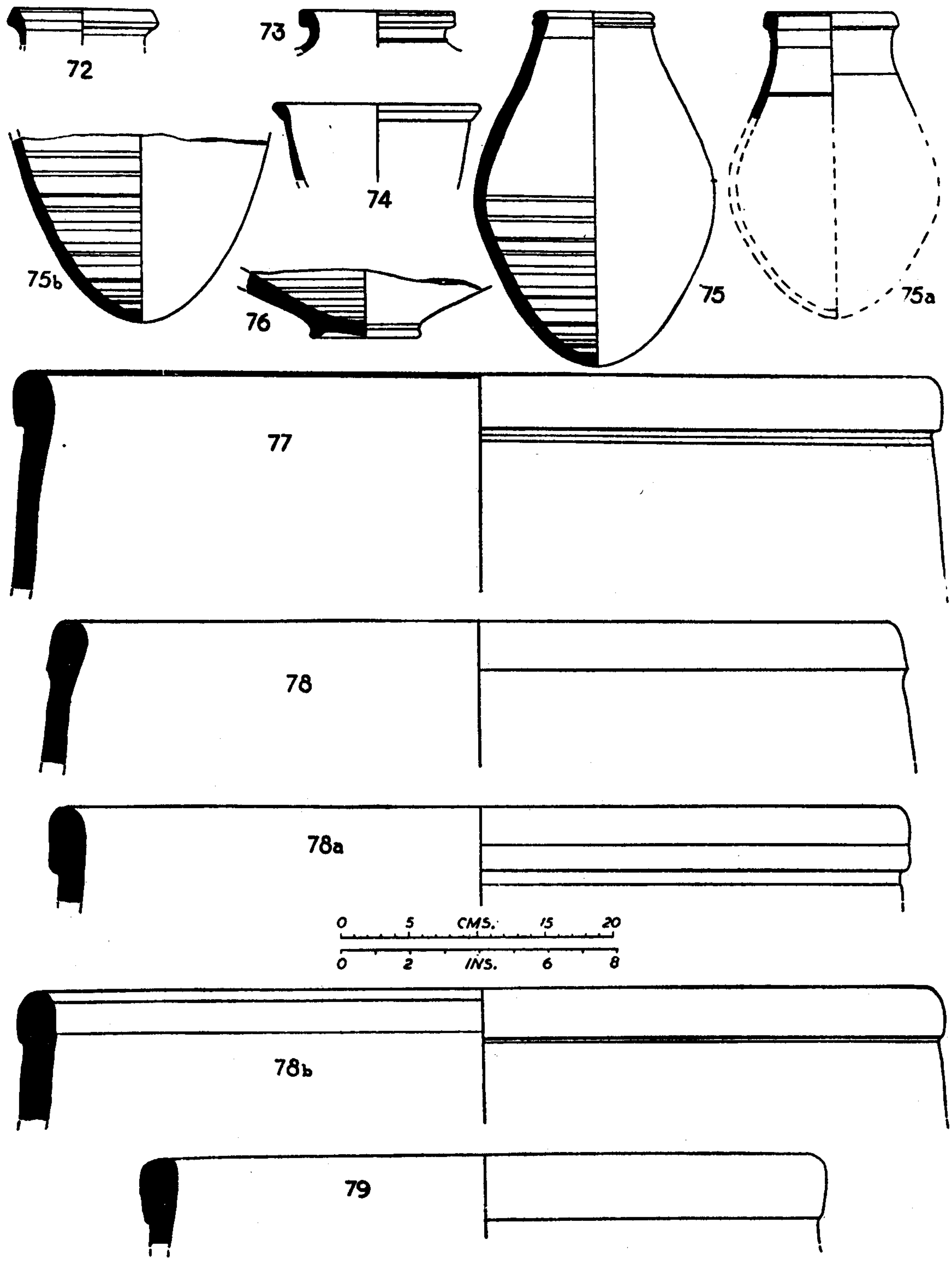



FIG. 41. *Coarse red ware, Period III*

*Type 64.* Jar with a beaded rim, thin walls and bulbous body. From middle level of Period III.

*Type 65.* Jar with a wide mouth, flaring beaked rim and bulbous body. Chocolate slip. From early level of Period III. *Variant 65a*, with a beaded rim and convex profile. From early level of Period III.

*Type 66.* Jar with a wide mouth, beaded rim and flanged shoulder. Ashy colour. From early level of Period III.

*Type 67.* Jar with a beaked rim and convex profile. Coarse gritty fabric. From early level of Period III.

*Type 68.* Jar with a handle, small raised neck, projected rim and bulbous body. From late level of Period III.

*Type 69.* Jar with a beaded rim and bulbous body. Red slip. From middle level of Period III.

*Type 70.* Jar of medium size with a high neck, beaded rim and bulbous body. Fabric sturdy. Red slip. From early level of Period III.

*Type 71.* High-necked jar with a beaded rim and convex profile. From middle level of Period III. *Variant 71a*, of very coarse fabric. Slipless. From middle level of Period III. *Variant 71b*, with a high neck and beaded rim. Painted in black over red with horizontal bands on the rim and shoulder. From late level of Period III. *Variant 71c*, with a wide mouth. From early level of Period III. *Variant 71d*, with a slightly-beaked rim and long neck. From early level of Period III. *Variant 71e*, with a beaded rim. *Variant 71f*, with a very high neck and beaded rim. From early level of Period III.

Fig. 41

*Type 72.* High-necked jar with a slightly-clubbed rim. From early level of Period III.

*Type 73.* Jar with a slightly beaked grooved rim and small neck. From late level of Period III.

*Type 74.* Jar with a wide mouth, high neck and straight sides. From earliest level of Period III.

*Type 75.* Jar with a high neck, grooved rim and ovoid body. Very coarse fabric. From early level of Period III. *Variant 75a*, with a beaded rim. From late level of Period III. Pl. XXIII A, *6*. *Variant 75b*, with a rounded base and corrugated interior. From late level of Period III.

*Type 76.* Thick jar with a ring-footed base. Very coarse fabric. From early level of Period III.

*Type 77.* Thick storage-jar with a beaded rim and straight sides. Very coarse and gritty fabric. From middle level of Period III.

*Type 78.* Large storage-jar with a clubbed rim, straight sides and wide mouth. Coarse gritty fabric. From middle level of Period III. *Variant 78a*, coarse but smooth surface. From middle level of Period III. *Variant 78b*, in gritty fabric. Greyish. From middle level of Period III.

*Type 79.* Jar with a clubbed rim and straight sides. From early level of Period III.

Fig. 42

*Type 80.* Large storage-jar with walls of medium thickness and a clubbed rim. From early level of Period III. *Variant 80a*, with a convex profile. From early level of Period III. *Variant 80b*, with a heavy beaded rim. From early level of Period III. *Variant 80c*, with a clubbed rim. From late level of Period III.

*Type 81.* Jar with a ring-footed base. From early level of Period III.

*Type 82.* Large bowl with a beaded rim. Medium thickness. Coarse fabric. From middle level of Period III.

*Type 83.* Bowl with a projected beaded rim, grooved neck and slightly-convex profile. From middle level of Period III.

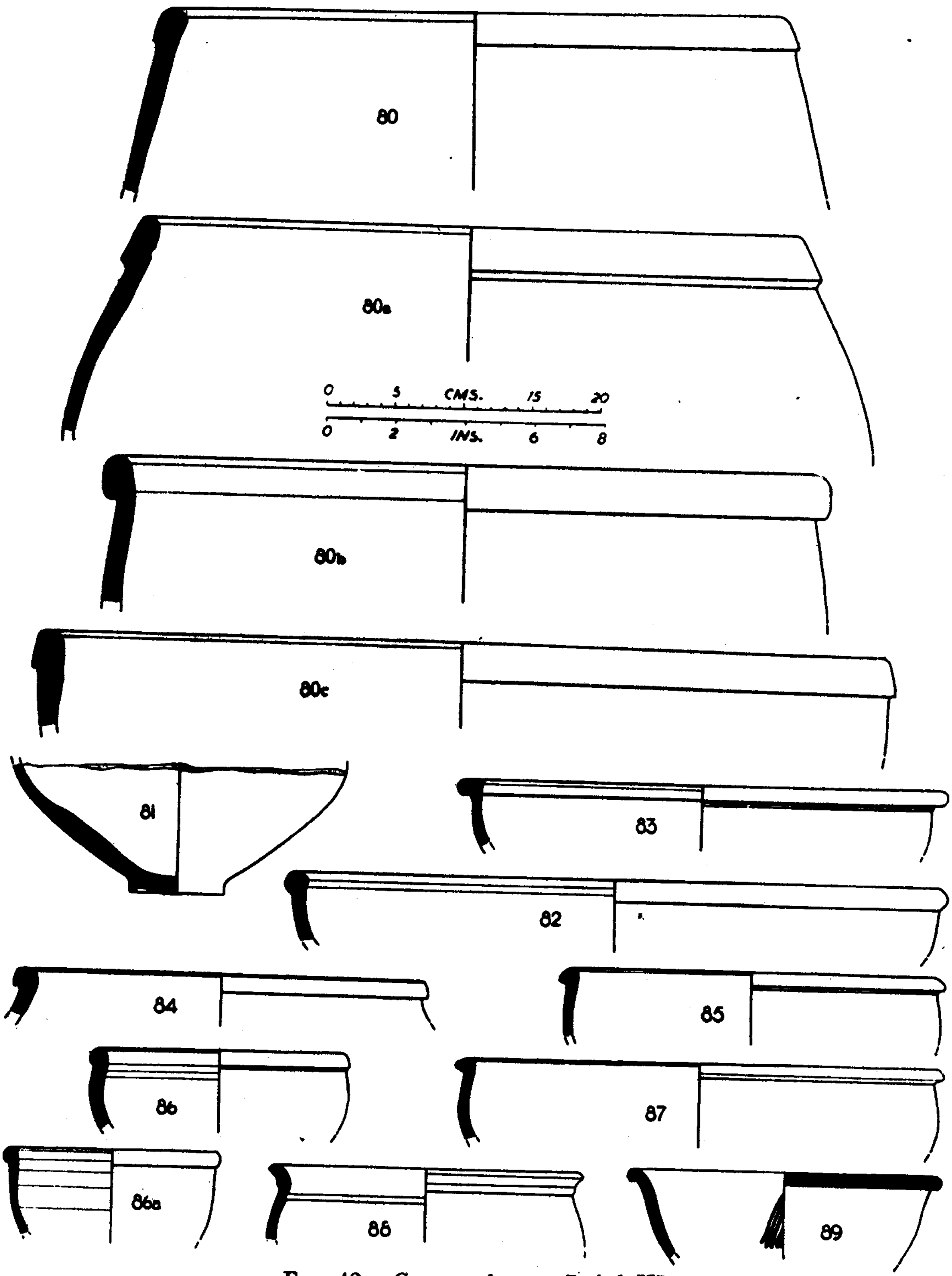



FIG. 42. *Coarse red ware, Period III*

*Type 84.* Bowl with a wide mouth and short projected rim. From late level of Period III.

*Type 85.* Bowl with a beaked rim and straight sides. From early level of Period III.

*Type 86.* Bowl with a beaded rim and convex profile. From late level of Period III. *Variant 86a*, in very coarse fabric. From middle level of Period III.

*Type 87.* Bowl with a beaked rim and convex profile. Slipless. From late level of Period III.

*Type 88.* Bowl with a wide mouth and sharp projected rim. Very coarse fabric. From late level of Period III.

*Type 89.* Bowl with a beaded rim and flaring mouth. Though coarse fabric, both surfaces burnished. Painted on the interior with oblique strokes in black over dull red. From early level of Period III.

Fig. 43

*Type 90.* Bowl of medium size with a flaring rim and blunt-carinated shoulder. Painted on the rim in dull-black horizontal bands. Sturdy fabric. From early level of Period III.

*Type 91.* Bowl with thin walls, an everted rim and sharp-carinated shoulder. Painted in black over red with hatched triangle and parallelogram. From early level of Period III.

*Type 92.* Bowl with a thick pedestal-base and sharp-carinated shoulder. From middle level of Period III.

*Type 93.* Deep dish with a small projected but slightly-beaked rim. Coarse fabric. From middle level of Period III.

*Type 94.* Dish with a nail-headed rim, slightly-raised edge and carination. Slightly different from the dish with a projected rim of Period II A. From late level of Period III.

*Type 95.* Dish with a beaded rim. From middle level of Period III.

*Type 96.* Corrugated hollow stem of a dish-on-stand. Coarse fabric. From early level of Period III; occurs at Navdatoli and Nagda.

*Type 97.* Deeply-corrugated hollow stand of a dish-on-stand painted in black over red with horizontal bands. From late level of Period III. *Variant 97a*, with less deep corrugation. From early level of Period III.

*Type 98.* Stand of a dish-on-stand, painted in black over red with horizontal bands. Surface pared. From early level of Period III.

*Type 99.* Very large stand of a dish-on-stand with beading at the slit base. Coarse fabric. From early level of Period III.

*Type 100.* Basin with a beaked rim, concavo-convex sides and rounded base. Painted with horizontal band at the neck in black over red. Graffito. From late level of Period III.

*Type 101.* Lamp with an internally-flanged rim and sagger-base painted across the rim with black strokes. Channel for wick partially visible. Sturdy fabric. From late level of Period III; occurs in Period II C and Lothal B. Pl. XXIII A, *2*.

*Type 102.* Lamp with an internally-flanged rim and channel for wick. Traces of smoke due to use visible. Coarse fabric. From late level of Period III. *Variant 102a*, smaller in size. From late level of Period III.

*Type 103.* Lid with a flanged grooved rim. Interior very rough. From late level of Period III.

*Type 104.* Miniature vessel with a carinated shoulder and rounded base. Painted in black over red with horizontal bands on the neck and shoulder. Coarse gritty fabric. From middle level of Period III.

*Type 105.* Miniature lid. Hand-made. From early level of Period III.

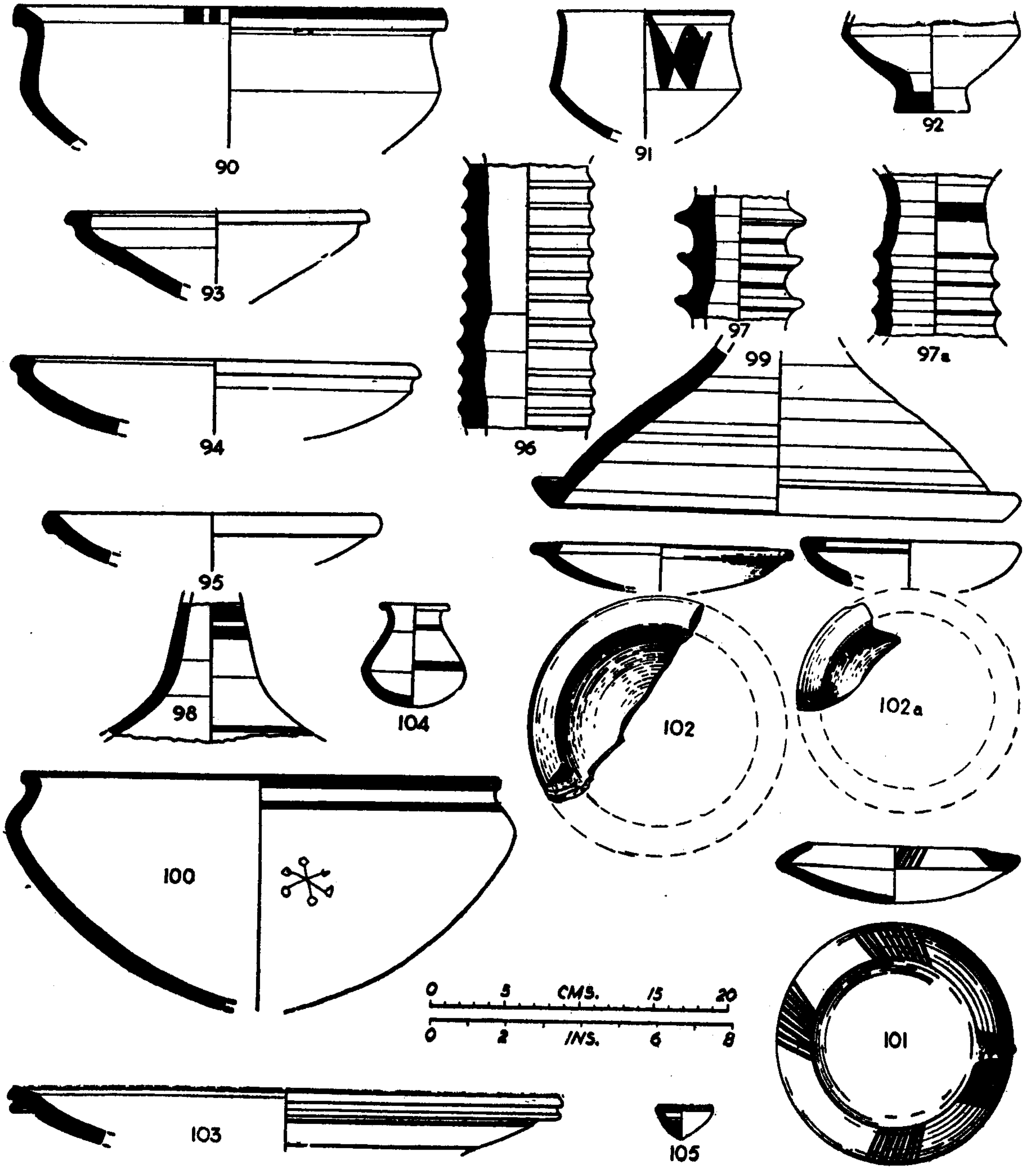



FIG. 43. *Coarse red ware, Period III*

*Black-and-red ware*

Fig. 44

*Type 106.* Bowl with a ring-footed base. Exterior lustrous red and interior black and shining. Found in Lustrous Red Ware also. From early level of Period III. *Variant 106a,* in dull-black and red. From early level of Period III. *Variant 106b,* painted internally at the base with groups of six oblique lines on concentric circles in white over a lustrous black surface. Exterior lustrous red. From early level of Period III.

*Type 107.* Bowl with a featureless rim. Painted internally at the shoulder with light-black strokes over lustrous red exterior. Cf. fig. 46, *D14.* From late level of Period III. *Variant* 107*a,* painted internally at the rim in white oblique strokes over black and on the shoulder with ten wavy lines. Exterior lustrous red. From early level of Period III; occurs in lustrous red ware in Period III and in black-and-red in Period II A. *Variant 107b,* with multiple grooves on the exterior below the rim. From early level of Period III. *Variant 107c,* with micaceous surface. Grooved internally below the rim. From early level of Period III.

*Type 108.* Convex-sided bowl. Painted internally with four dirty-white wavy lines in group. Coarse fabric. From late level of Period III.

*Type 109.* Bowl with an everted beaded rim and convex-sides. Surface well-burnished. Lustrous red on lower half of the exterior and black on the interior and below the rim on the exterior. From late level of Period III.

*Type 110.* Convex-sided bowl with flaring sides. Painted internally with groups of six vertical and three oblique lines in white over black surface. Shining smooth surface. From late level of Period III. Pl. XXV A, *5.*

*Type 111.* Bowl with a sharp rim and flaring sides. Painted internally in two groups of six light-black vertical bands. From late level of Period III. Pl. XXV A, *1.*

*Type 112.* Bowl with a slightly-everted rim and blunt-carinated shoulder. Painted in two groups of six vertical bands on the interior surface. From late level of Period III.

*Type 113.* Bowl with an everted rim and convex body. Painted internally on the rim with groups of four light-black vertical strokes and dots. Coarse fabric. From late level of Period III.

*Type 114.* Shallow convex-sided bowl with featureless rim. Evolved from type 54 of Period II A. From early level of Period III.

*Type 115.* Bowl with slightly-concave sides. Painted internally on the rim with thick white wavy lines. From middle level of Period III. Pl. XXV A, *4.*

*Type 116.* Bowl with an everted rim and blunt-carinated shoulder. Painted internally with groups of light-black vertical strokes over a black background. Analogous to type 24 in Lustrous Red Ware. From late level of Period III.

*Type 117.* Bowl with a beaded rim and blunt-carinated shoulder. Exterior lustrous red in colour. From middle level of Period III.

*Type 118.* Bowl with a concavo-convex profile and sharp-carinated shoulder. Lustrous red exterior. From late level of Period III. Cf. fig. 37, *17*; pl. XXIII A, *7. Variant 118a,* in coarse fabric. From middle level of Period III. Cf. fig. 37, *17a. Variant 118b,* smaller in size. Black on both surfaces due to bad firing. Fom late level of Period III.

*Type 119.* Bowl with an everted rim, sharp-carinated shoulder and smooth surface. Well-fired. Evolved from type 16 in Lustrous Red Ware. Cf. fig. 37, *16*; pl. XXIII A, *11.* From early level of Period III. *Variant 119a,* coarse fabric and rough surface. From early level of Period III.

*Type 120.* Bowl with a tiny beaded rim and blunt-carinated shoulder. Lustrous red exterior. From early level of Period III.

*Type 121.* Bowl with a projected splayed rim and convex sides. Painted internally at the rim with white vertical strokes. From late level of Period III. *Variant 121a,* with straight sides and a

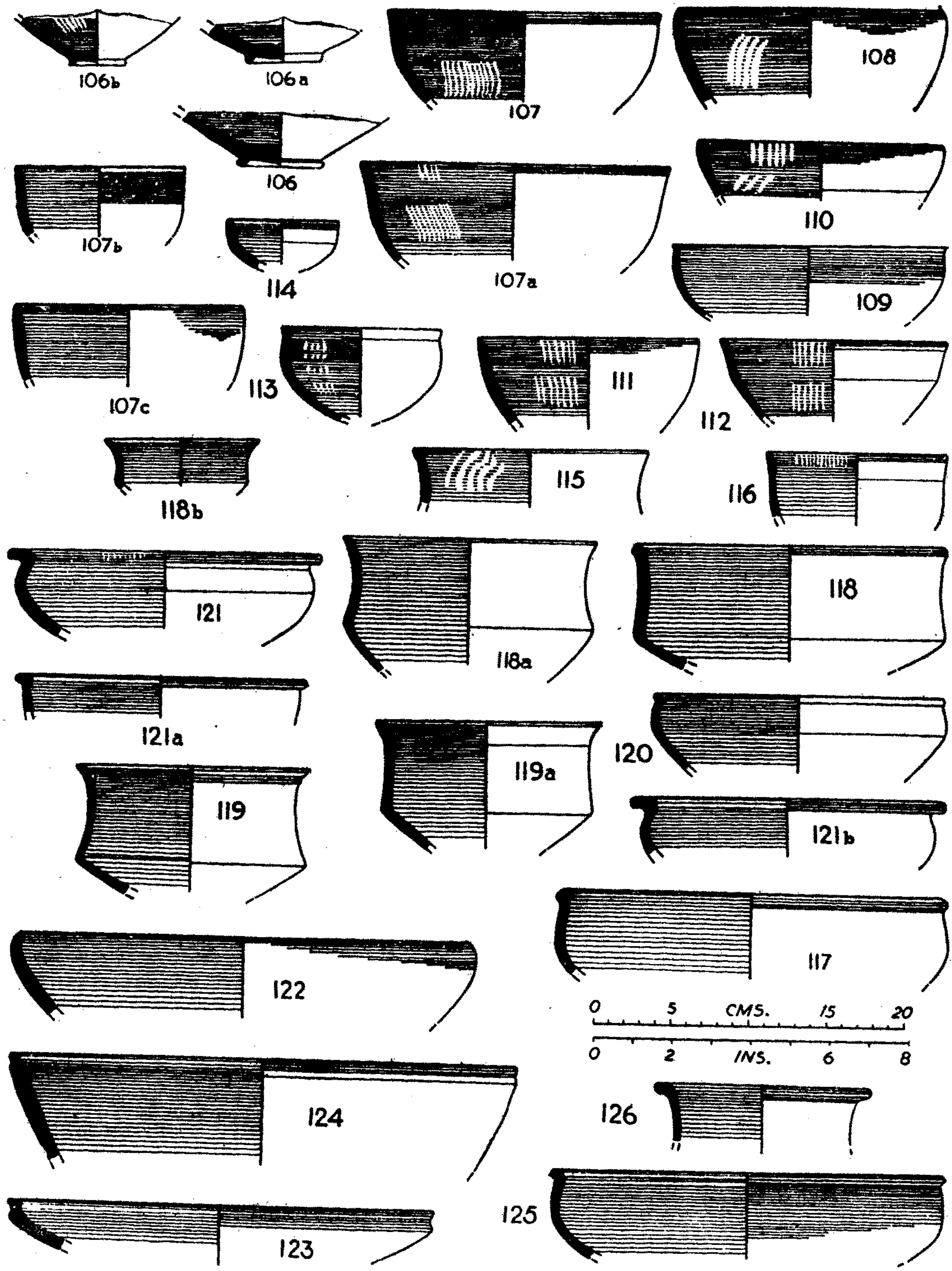



FIG. 44. *Black-and-red ware, Period III*

short projected rim. Coarse fabric. From late level of Period III. *Variant 121b*, with convex sides and a pronounced projection of the rim. From late level of Period III.

*Type 122.* Bowl with an incurved rim. From late level of Period III.

*Type 123.* Dish with a grooved rim, carinated shoulder and rounded base. From middle level of Period III.

*Type 124.* Vessel with tapering sides and straight-cut rim. Rough surface. From middle level of Period III.

*Type 125.* Bowl with a flaring grooved rim and convex sides. Rough surface. From early level of Period III; occurs at Lothal also.

*Type 126.* Jar with a high neck and projected rim. Exterior treated with micaceous smooth red slip. Occurs in red ware and Lustrous Red Ware. From early level of Period III.

*Coarse grey ware*

Fig. 45

*Type 127.* Jar with a flaring rim, flanged neck, convex profile and rounded base. Fabric coarse and gritty. Interior grey and exterior creamy in colour except at the neck where it is grey. From early level of Period III.

*Type 128.* Jar with a flaring rim and convex sides, with a red wash on the shoulder only. Decorated with incised nail-pattern. From late level of Period III. *Variant 128a*, without any decoration. From late level of Period III.

*Type 129.* Jar with a prominent flaring rim and bulbous body. Treated with a red slip. Incised deeply with a sharp nail. From late level of Period III.

*Type 130.* Jar with a splayed beaded rim and bulbous body. Coarse gritty fabric. From middle level of Period III.

*Type 131.* Large storage-vessel with a flaring splayed rim and convex profile. Very coarse gritty fabric. From middle level of Period III. *Variant 131a*, of medium size. From middle level of Period III. *Variant 131b*, decorated by incised wavy lines. From middle level of Period III.

*Type 132.* Thick storage-jar with a splayed rim. Decorated with incised wavy lines and oblique strokes. Very coarse and gritty. From late level of Period III. *Variant 132a*, with nail-tip decoration. From late level of Period III. *Variant 132b*, with incised thumb-tip marks in groups of three. From late level of Period III.

*Type 133.* Jar with a flaring internally-ledged rim and convex sides. Decorated with incised vertical slashes. Interior smoky in colour. From late level of Period III.

*Type 134.* Jar with a thick flaring rim and bulbous body. Decorated with multiple rows of dots incised by a sharp instrument. From late level of Period III.

*Type 135.* Huge jar with a flaring rim. Decorated with incised dots in zigzag line, slightly burnished. From early level of Period III.

*Type 136.* Thick storage-jar with a splayed rim and flanged shoulder. Decorated with groups of incised vertical slashes. Coarse gritty. From early level of Period III.

*Type 137.* Wide-mouthed jar with a flaring rim and bulged body. Small loop-handle at the rim. Incised with wavy lines and oblique slashes. From late level of Period III.

*Type 138.* Jar with an out-turned beaded rim, internally-grooved neck, cordoned shoulder and bulbous body. Creamy wash on exterior. Ill-fired. From late level of Period III.

*Type 139.* Large bowl with a flat rim and thick walls. Gritty fabric. Decorated with horizontal incised notches. From early level of Period III.

*Type 140.* Stemmed bowl with an everted rim, carinated shoulder and beaded base. From late level of Period III; occurs in Period II C also and evolved from bowls of Period II B. Pl. XXIII A, *1*. *Variant 140a*, larger in size. From middle level of Period III.

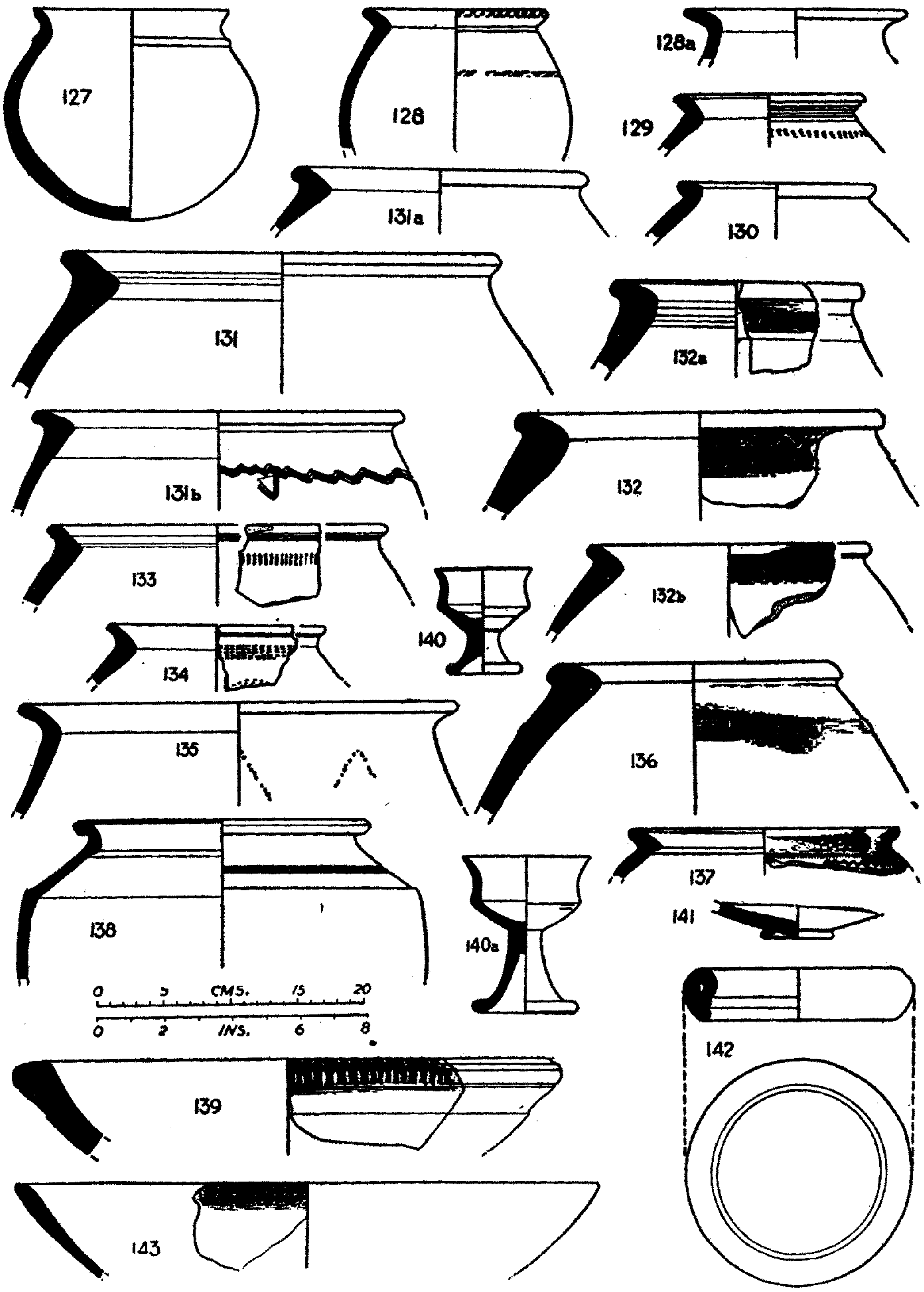



FIG. 45. *Coarse grey ware, Period III*

*Type 141.* Jar with a ring-footed base and broad belly. Surface well-burnished. From early level of Period III.

*Type 142.* Ring-handle with an axial perforation. Very well-burnished. From middle level of Period III.

*Type 143.* Deep bowl of medium size with tapering sides. Smooth interior and decorated by rows of incised strokes. From early level of Period III.

*Painted sherds of Lustrous Red Ware*

Fig. 46

*D1.* Sherd painted in white over deep lustrous red with multiple vertical lines. From middle level of Period III.

*D2.* Sherd painted in black over lustrous red surface with vertical rows of loops running along vertical lines. From middle level of Period III.

*D3.* Sherd painted in black over lustrous red with hatched rectangles and vertical strokes between horizontal bands. From late level of Period III. Pl. XXIV, *11.*

*D4.* Shoulder-part of a jar painted in black over lustrous red with interspaced vertical lines springing from concentric bands. From early level of Period III.

*D5.* Thick sherd painted in black over red with a thick horizontal band, inverted loops above and oblique double lines below. From middle level of Period III.

*D6.* Sherd painted in light black over red with obliquely-running wavy lines in groups above a horizontal band. From early level of Period III. Occurs in Lothal B also. Pl. XXIV, *3.*

*D7.* Sherd painted in black over lustrous red with horizontal bands and hatched rectangle forming a fish-net design. From late level of Period III. Pl. XXIV, *10.*

*D8.* Sherd painted with horizontal bands and wavy lines in a horizontal register. Suggests a net-design. From middle level of Period III. Pl. XXIV, *1.*

*D9.* Shoulder-part of jar painted with faint-black and white bands over a lustrous red surface. From early level of Period III.

*D10.* Sherd painted with white pellets over black bands on a lustrous red surface. From early level of Period III. Pl. XXIV, *4.*

*D11.* Grey sherd painted in light-black over a thick-red slip with oblique lines between horizontal bands and hatched oblique lines. From early level of Period III.

*D12.* Sherd painted in black over lustrous red with rows of small filled triangles between horizontal bands. Sturdy fabric. From middle level of Period III. Occurs in Lothal B also. *Variant D12a,* with same colour-scheme and fabric but painted carelessly with inverted loops on horizontal band. From early level of Period III.

*D13.* Sherd of superior fabric painted in deep-black over red with scalloped design above horizontal bands. From early level of Period III. Pl. XXIV, *9.*

*Painted sherds of coarse red ware*

Fig. 46

*D14.* Sherd painted in black over red with inverted loops above horizontal bands. From early level of Period III.

*D15.* Large thick sherd, painted in black over burnished red surface with horizontal bands and suspended loops. Pigment flaked off partially. From middle level of Period III. Pl. XXIV, *12.*

*D16.* Thick sherd painted in light-black over red with zigzag lines between horizontal bands, below which there are irregular lines. From middle level of Period III. Pl. XXIV, *7.*

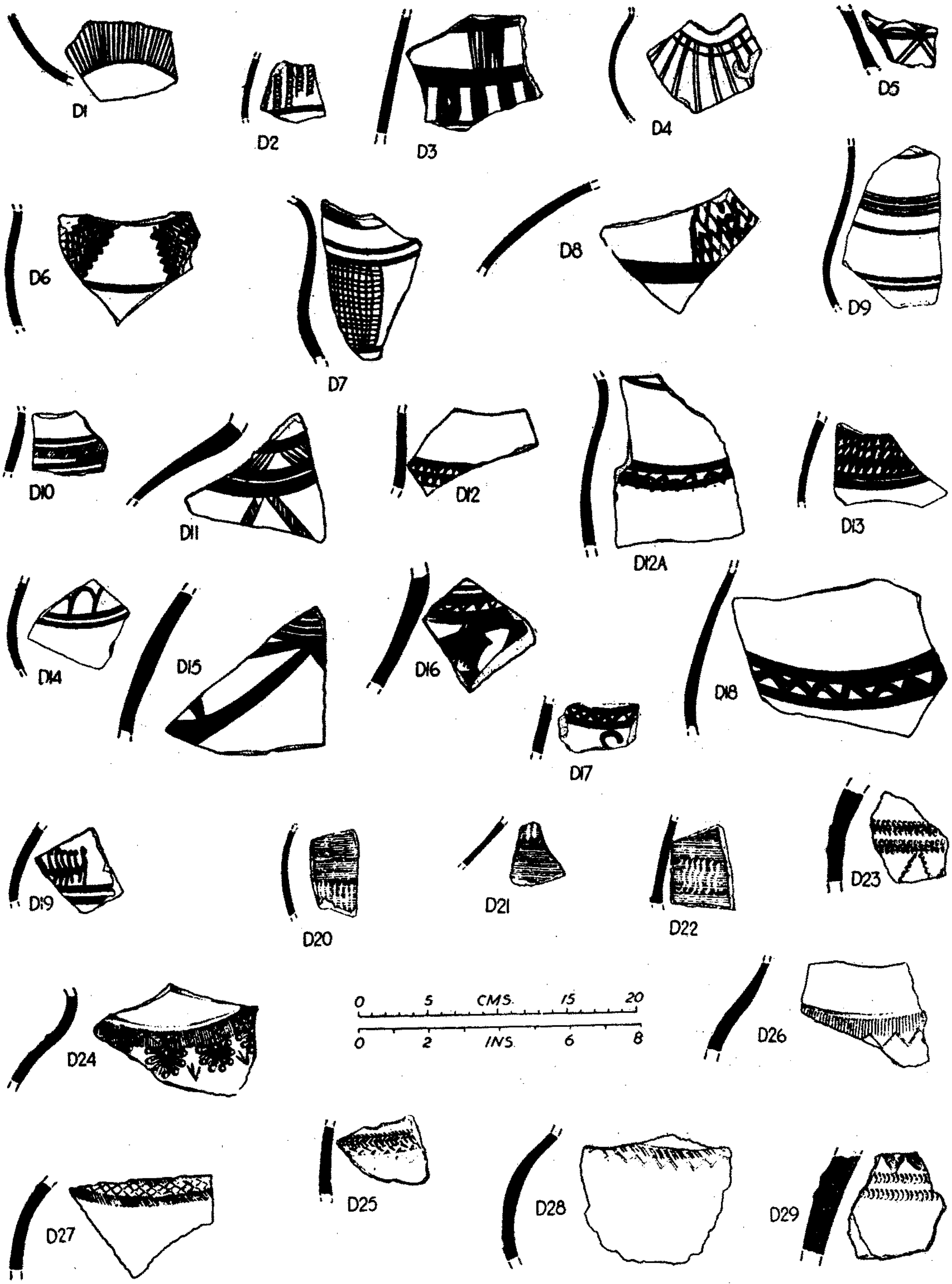



FIG. 46. *D1-D13, painted sherds of Lustrous Red Ware, D14-D19, painted sherds of coarse red ware, D20-D22, painted sherds of black-and-red ware, and D23-D29, incised sherds of coarse grey ware, Period III*

*D17.* Sherd painted in black over red with zigzag lines between horizontal bands and a loop below. From late level of Period III. Pl. XXIV, *8.*

*D18.* Large but thin sherd painted in light-red over a pinkish surface with zigzag lines between horizontal bands. From early level of Period III. Pl. XXIV, *5.*

*D19.* Sherd painted in light-black over light-red with a row of conventionalized birds, possibly cranes Pl. XXIV, *6.*

*Painted sherds of black-and-red ware*

Fig. 46

*D20.* Sherd painted with seven vertical lines and four wavy horizontal lines in white on the interior. From middle level of Period III. Pl. XXV A, *3.*

*D21.* Sherd painted with two thick vertical bands in white colour on interior. From early level of Period III.

*D22.* Part of a jar, painted internally with dirty-white wavy lines in groups of four. From early level of Period III.

*Incised sherds of coarse grey ware*

Fig. 46

*D23.* Sherd decorated with two parallel double rows of oval notches and two oblique rows below. From middle level of Period III.

*D24.* Shoulder of a jar stamped with vertical lines, floral design and oblique slashes. Upper half treated with a bright-red slip. From middle level of Period III. Pl. XXIV, *2.*

*D25.* Sherd stamped with a conifer-branch motif above a wavy groove. From middle level of Period III.

*D26.* Sherd decorated with a row of incised vertical lines and a zigzag line below. From early level of Period III.

*D27.* Sherd incised with mesh-design enclosed by oblique strokes. From middle level of Period III.

*D28.* Sherd decorated with crudely-incised wavy and oblique lines. From late level of Period III.

*D29.* Sherd decorated with applied nail-tip marks on raised bands and incised multiple wavy lines above. From early level of Period III.

(vii) *The graffiti*

Figs. 47-49

As many as two hundred and twentytwo of the excavated potsherds bear graffito-marks, ranging in form from simple strokes to intricate geometric and naturalistic designs. A lid from Period II A bears seven signs vaguely resembling the Indus ones (fig. 49, *86*; pl. XXIX A). Comparable is an inscribed bowl from Rojdi[1] which bears three Indus signs. The most remarkable evidence comes from Lothal, where a potsherd inscribed with signs vaguely resembling the Brāhmī characters on the one hand and the Indus signs on the other occurs (pl. XXIX B).

A Period-wise classification of the inscribed potsherds from Rangpur reveals that the largest number of them come from Period III, and a fairly large number from Period II C. Very few sherds are found in Periods II A and II B. This does not, however,

[1] *Indian Archaeology 1957-58—A Review* (1958), p. 21 and fig. 10 A, *1.*

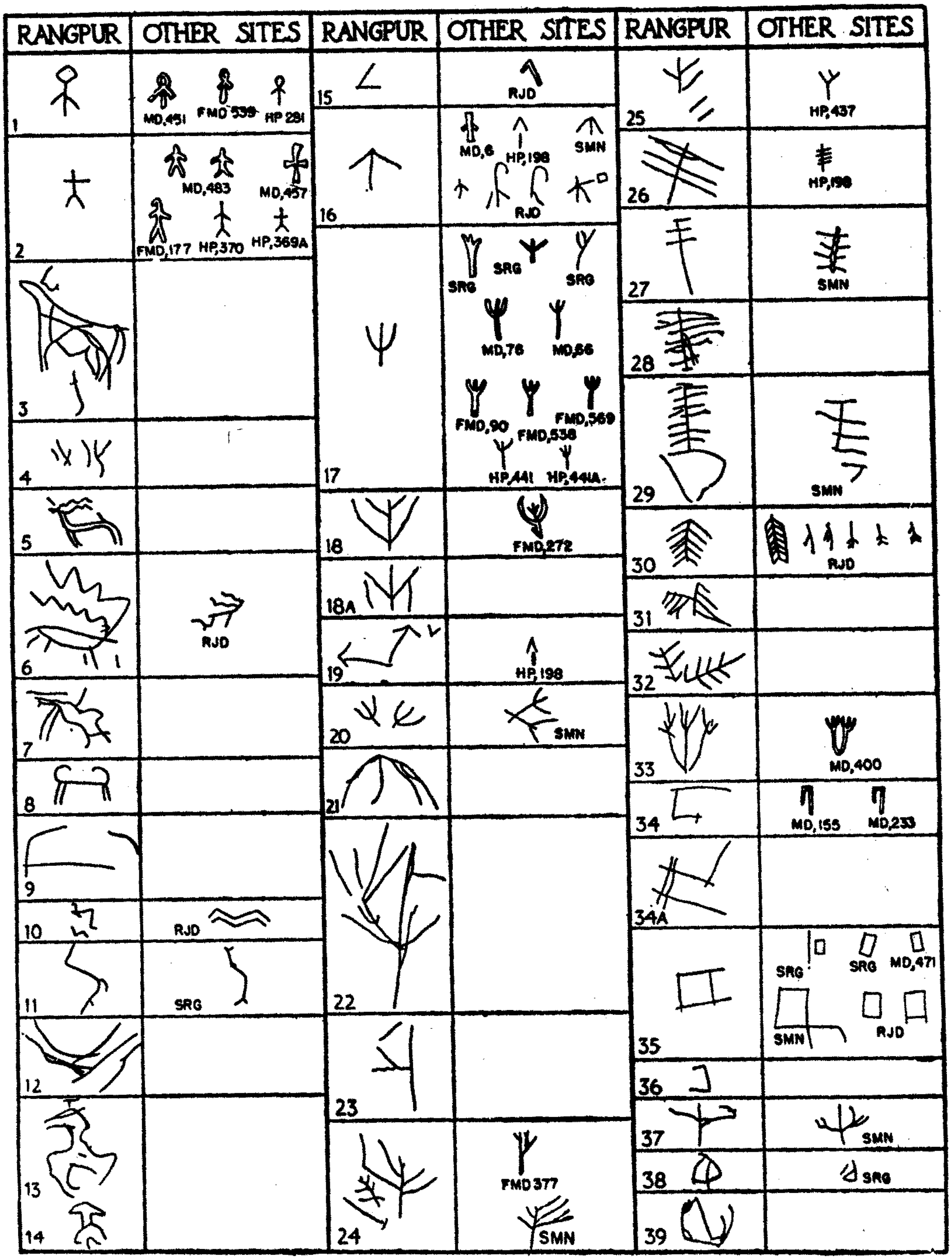



FIG. 47. *The graffiti*

[*Abbreviations in figs. 47-49:* FMD=Mackay, *op. cit.*, (1938); HP=Vats, *op. cit.*, (1940); MD=Marshall, *op. cit.*; RJD=Rojdi; SMN=Somnath; SRG=Saragwala (Lothal)]

mean that literacy was greater in Periods II C and III than in II A and II B, as more of inscribed perishable material might have been used in the earlier Period.

The graffito-marks can be classified into three main groups, respectively comprising (i) motifs of human forms, animals and birds, (ii) linear symbols evolved from the Indus signs and (iii) a combination of several linear signs. There are twentysix potsherds in the first group, one hundred and eightyeight in the second and eight in the third. Sometimes strokes, such as a cross or a vertical or horizontal line, are added to a simple sign. Some are enclosed in rectangles, while others are divided into compartments. A frequently-occurring sign is the trident with additions. 'U'- or 'V'-shaped signs, the trident and vertical lines with or without oblique strokes, occur on potsherds from other chalcolithic sites such as Prabhas, Bahal, Prakash, Piklihal and Navdatoli. They are also noticed on the neolithic and megalithic pottery from Paklihal, Maski, Brahmagiri, Sanur, etc.[1]

GROUP 1.—This group comprises human motifs, animal-motifs and bird-motifs. A figure suggesting the goat is engraved on a sherd which comes from Period II A (fig. 47, *3*; pl. XXV B, *1*). In another case only the legs of an animal are drawn on the rim of a sturdy jar (fig. 47, *4*; pl. XXV B, *2*). One of the sherds from Period II C shows a deer with raised tail (fig. 47, *5*; pl. XXV B, *3*). A cruder representation of the deer can be seen on one more sherd, but a slightly-better specimen comes from Period III (fig. 47, *7*; pl. XXV B, *5*). Here only the neck of the animal is visible. Five other potsherds, one of which is in the black-and-red ware, bear outlines of the deer-motif. In the late levels of Period III, this very motif is so much stylized that the outline is reduced to mere zigzag lines (fig. 47, *11*; pl. XXV B, *9*). The highly-conventionalized human forms (fig. 47, *1* and *2*; pl. XXV B, *11* and *12*) on a sherd are almost similar to the pictographs depicting man on the Indus seals

Figures of birds engraved on three sherds are sketchy. One of them may represent a duck (pl. XXV B, *14*) The duck is also painted on pottery.

GROUP 2.—This group consists of linear symbols such as simple vertical strokes (fig. 48, *64* to 67; pl. XXVI A, *66* to *68*), the arrow-mark (fig. 47, *16*; pl. XXVI A, *17*), the trident (fig. 47, *17*; pl. XXVI A, *18*) and the rectangle (fig. 47, *35*; pl. XXVI B, *36*), from which more intricate symbols are evolved. Sometimes several horizontal lines are drawn on either side of a vertical line (fig. 47, *27*; pl. XXVI A, *27* and *28*). Addition of three lines in the form of a trident at the tip of each prong of a trident (fig. 47, *33*; pl. XXVI B, *34*) and interlacing of two or more triangles (fig. 48, *55*; pl. XXVII A, *57*) have resulted in intricate designs. A very good example of the evolution of certain symbols by the addition of strokes and lines is the 'X'-sign. A stroke is added at each end of 'X' incised on a dish from Period II B (fig. 48, *43*; pl. XXVII A, *44*). Two vertical lines joining the ends of 'X' are drawn on two sherds (fig. 48, *44* and *45*; pl. XXVII A, *45* and *46*), while in another case four lines join the ends and two of them are doubled (fig. 48, *48*; pl. XXVII A, *50*). A rectangle enclosing 'X' and the addition of a stroke is a further development (fig. 48, *49*; pl. XXVII A, *51*). Sometimes two circles are also added at the two top corners. (fig. 48, *50*; pl. XXVII A, *52*). A plant is another common sign (fig. 47, *32*; pl. XXVI B, *33*). A coniferous tree is also suggested on a sherd (fig. 47, *30*; pl. XXVI B, *31*). Compartmented rectangles (fig. 48, *52*) are among the geometrical designs occurring on potsherds, seals and sealings from Lothal. The *svastika* (fig. 48, *62*; pl. XXVIII A, *77*), a figure resembling 'T' (fig. 48, *75*; pl. XXVI B, *78*) and the cross (fig. 48, *41*; pl. XXVII A, *42*) are also drawn occasionally. The *svastika* and cross occur on seals from Lothal, Harappa and Mohenjo-daro.

[1] [For distribution of graffiti, see B. B. Lal in *Ancient India*, no. 16 (1960), pp. 4-26.—Ed.]

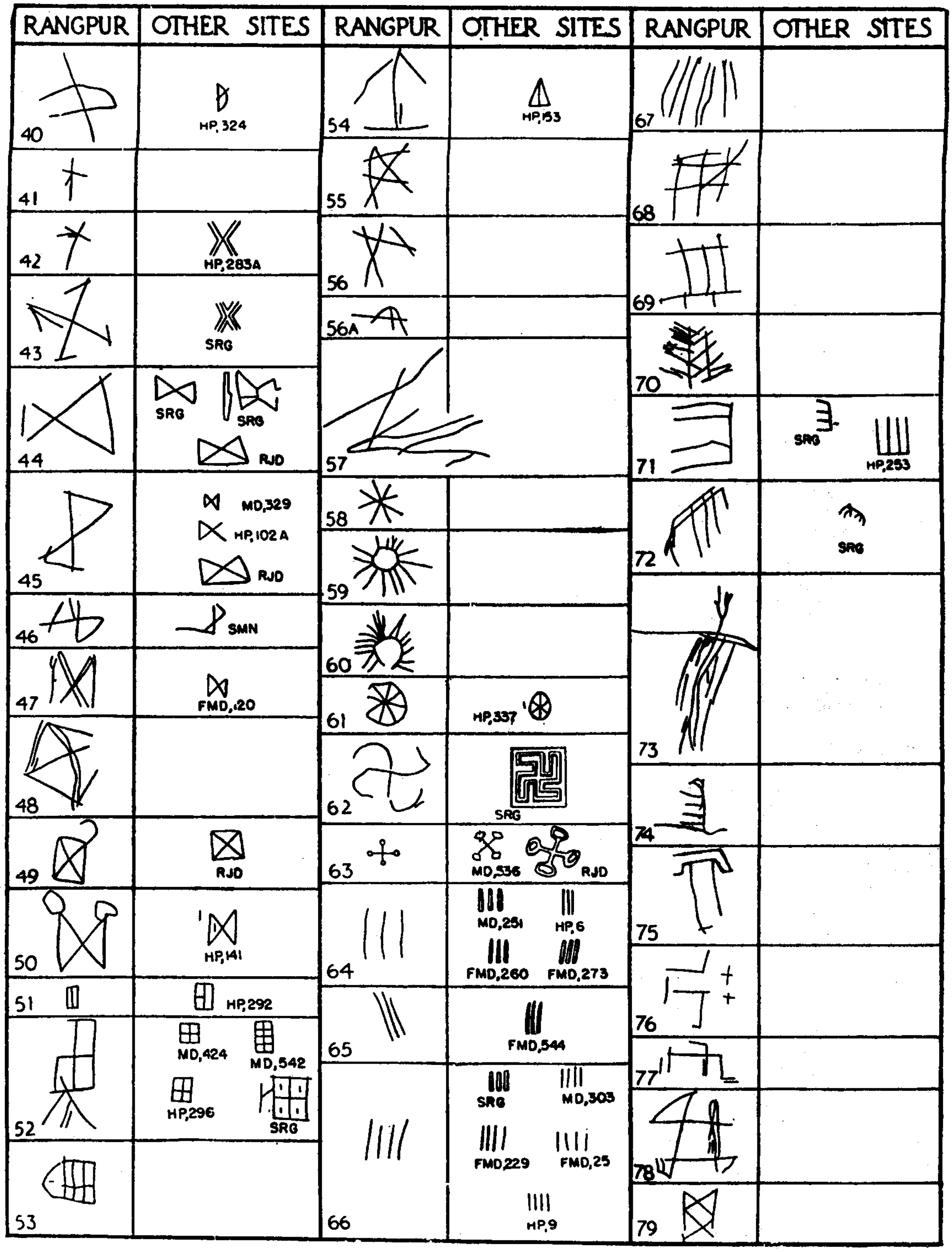



FIG. 48. *The graffiti*

A cross with a circle or a dot at each end (fig. 48, *63*; pl. XXVIII A, *63*) and arrows radiating from a point (pl. XXVIII B, *96*), the sun and spoked wheel (fig. 48, *59* to *61*; pl. XXVIII A, *65* and *71*) appear to be the forerunners of same symbols on punch-marked coins. A mounted bow indicated on a sherd from Period III (fig. 48, *40*; pl. XXVI A, *41*) is reminiscent of similar signs on Indus seals. Crude representations of the hut (fig. 49, *92*) and fish-net (fig. 49, *81*) occurring on seals are drawn on some potsherds. Other miscellaneous linear signs which can be understood better by perusing the chart are not described here. They can be seen on pl. XXVII B.

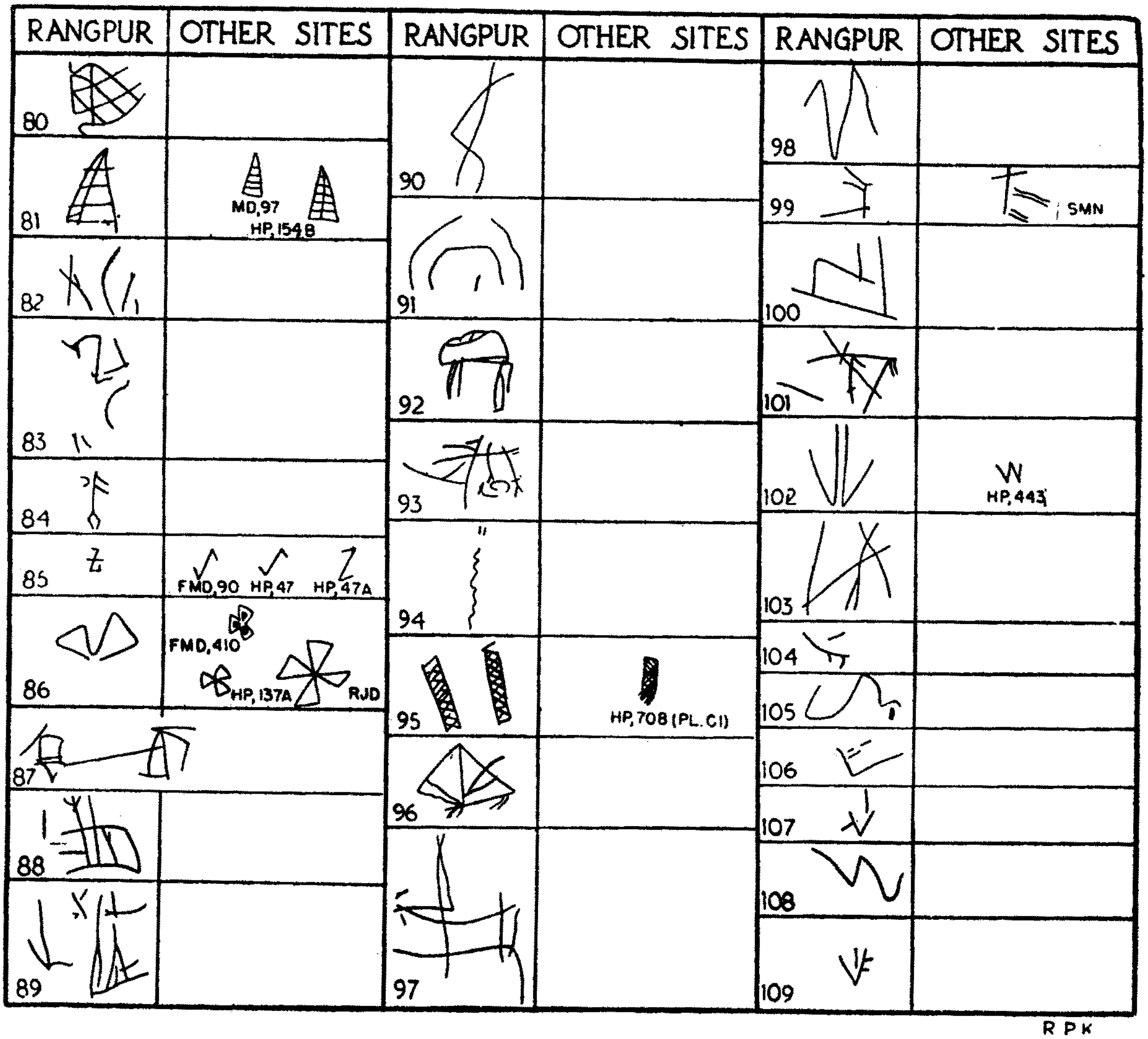



**Fig. 49.** *The graffiti*

Group 3.—This group consists of combinations of several linear signs. The use of such signs with additional strokes may be noted. In two cases only two signs are seen (fig. 49, *82*; pl. XXVIII B, *85*), while on a lid from Period II A (fig. 23, *86*; pl. XXIX A) seven signs are drawn. A potsherd from Lothal has five signs (pl. XXXIX B).

From the foregoing description it is fairly clear that some of the linear signs noticed on the Indus seals continued to be in use in later times also. It is also suggested here that the large number of signs encountered on seals was reduced in Periods II C and III of Rangpur and in Lothal B. Pictographs such as the scorpion, fish and bird were dropped. Writing appears to have been made easy by limiting the numbers to about forty basic linear signs.

## (viii) *Scientific examination of the pottery from Rangpur*

By *Dr. B. B. Lal*

Fortyseven sherds from Rangpur, variously belonging to Periods II A, II B, II C and III, were received in the laboratory of the Archaeological Chemist in India for chemical analysis and examination with a view to determining the techniques and material employed in their fabrication.

### Period II A

Red ware.—Seventeen sherds of red ware from RGP 3, RGP 4 and RGP 7 were examined.

1. Both the convex and concave surfaces of this sherd are ochre-red and painted. The sherd shows a faintly-grey middle zone about 1 mm. thick, with the ochre-red outer and inner zones about 2 mm. thick. Turned on the wheel, the pot is ochre-washed and painted in chocolate. There is little cohesion between the pigment and the surface, which probably indicates that the decoration was post-firing. The sherd emits a fairly-marked metallic ring when struck; the body shows a reddish colour all through, except for a faintly-greyish zone in the middle. It is, therefore, clear that the pot was well-fired in an oxidizing atmosphere. Finely made, the sherd does not show any coarse dégraissant or vegetable-fibres; the tempering-material was fine sand.

The chocolate colour of the bands is due to a manganiferous ore which was crushed and made into a pigment.

2. Both the surfaces are ochre-washed; the section, however, is buff and not reddsih as in sample 1. The body is made of fine clay with sand as a temper. Carbonaceous matter which may have been originally present in the clay has completely burnt out, and the sherd is well-fired. The pot is wheel-made.

3. It resembles sample 2, but the ochre-wash is absent from the inner surface. The central zone of the section is greyish buff. The decorative technique applied in this case is similar to that described above.

4. This is very similar to sample 1. Both the convex and concave surfaces are ochrewashed. Fine clay was used for making this pot and medium-to-fine sand was used as a dégraissant. In texture and composition, this sample is similar to sample 3. It is well-fired, resulting in a complete destruction of carbonaceous matter and the oxidation of iron. Since the ware is fairly thick, about 0·8 cm. in thickness, a faint intermediate zone of greyish colour is to be expected. An oxidizing atmosphere was used for firing the pot.

The chocolate black bands on the exterior surface were painted after firing and ochre-washing the ware, as there is little evidence of sintering of the pigment-layer, which seems to have a rather weak bond with the surface. The sherd gives a metallic ring when struck.

5-9. These sherds have nearly the same characteristics as described above, but sample 9 has a dark-red ochrewash fairly thickly applied so that the concentric striations, characteristic of other sherds, have been obliterated. It would, therefore, be appropriate to describe it as an ochre-coloured slip rather than a wash. The chocolate-black colour used in decorating the ware shows the presence of manganese and iron and may have been prepared from a manganiferous ore.

10. This sherd is reddish in section and there is no evidence of any grey zone. It is a well-fired and oxidized ware and was given a wash of red ochre. The striations are clearly visible.

11. This sherd is very similar to sample 8. Here the ochre-wash is fairly thick on the inner side, but the exterior convex surface shows a thinner layer. The nature of clay and the method of firing are the same as in the above samples.

12. This sherd shows a buff colour in section without any perceptible grey zone. The colourwash is much thinner than in samples 9 and 11. The thin wash has nearly flaked off on the exterior, but traces of a dark-chocolate band are noticeable at the rim. There is little adhesion between the body and the dark colour which shows that the decoration was post-firing.

13. Both the surfaces are finished and decorated. The inner surface carries a fine slip of reddish colour; the outer surface is yellowish-buff. It seems that red-ochre wash was applied to the interior and a yellow-ochre wash to the exterior. The sherd shows a pinkish buff colour in section. The sherd was fired well in an oxidizing atmosphere and then decorated.

14. This sherd is similar to sample 13. Light-red on the interior and yellowish-buff on the exterior, it is painted in chocolate colour like that sample. In section it is buffish-pink in colour. It is a well-fired and oxidized pot. It gives a marked metallic ring when struck.

15 and 16. These are similar to samples 13 and 14. Sample 16 shows a fairly-thick dark-red slip which has largely obscured the striations caused in turning the pot on the wheel. This ochrewash is not so thick as sample 15. The outer surface of sample 16 is yellowish buff, but sample 15 does not show any yellow tinge on the exterior. The body of sample 16 is, however, coarser than that of 15.

17. A thick sherd showing a thick reddish slip on the interior and a buff slip on the exterior. The surface was decorated by a deep ochre-red wash which has largely flaked off, showing the inner buff slip. The pot was evidently well-fired in an oxidizing atmosphere.

From the above it will be observed that except for some slight difference in colour or shade, samples 1-12 show the same technique of firing and decoration, but samples 13-16 reveal a new technique totally absent in the former group.

BUFF WARE.—There are six sherds (samples 18-23) of a yellowish-buff colour. All are made of a calcareous clay which is rather coarse when compared with that used in samples 1-17. However, they emit a metallic ring when struck and are well-fired. Samples 18, 19 and 21 are about 1·3 to 1·4 cm. thick and sample 20 about 1·0 cm. The remaining two samples, 22 and 23, are thinner and are made of finer clay. In section, samples 18, 19 and 21 show a yellowish-buff colour. Sample 22, however, shows two distinct zones, a yellowish inner zone about 2 mm. thick and greyish buff outer zone about 0·8 mm. thick. Samples 22 and 23 are about 0·4 to 0·6 cm. thick and show a buff colour in section. They are as hard in surface-hardness as the red ware sherds. It seems that a finely-levigated clay of the same composition as the body but free from sand was applied

to both the surfaces of these pots before firing. Samples 22 and 23 have a chocolate banded decoration; the colour is due to iron and manganese. It seems that a manganiferous ore was used for preparing the pigment.

In view of their hardness, which ranges between 5 and 6, and the absence of any distinctly grey or black core even in the thick sherds, it appears that ordinary oxidizing atmosphere was used in firing these pots. Due to the presence of lime the red colour of oxidized iron did not develop and the clay burnt to a buffish-yellow colour. There is no doubt that this yellowish-buff ware shows a marked difference from the red ware already described.

These sherds were subjected to pyrometric test. They were exposed to strong heat (700°–800° C.) in open air, but in spite of prolonged heating for several hours, none of them developed the characteristic ochre-red or pink colour of ordinary ferruginous clay fired in oxidizing atmosphere. The absence of red colour is therefore attributable to the calcareous nature of the clay used in making these pots.

Grey ware.—One sherd, sample 24, was received for examination. The body of the sherd is grey; the clay is coarser than that in the samples described above. The surface shows a thin layer of greyish-black slip which was evidently applied to the pot to render it smooth. It was subsequently polished and fired in a reducing atmosphere. In the absence of a larger number of sherds of this ware, it is difficult to say anything more regarding the exact techniques of manufacture and firing and much reliance should not, therefore, be placed on the results of examination.

### Period II B

Nine sherds, samples 25-33, from RGP 2 and RGP 5 were examined and analysed. Six of them, samples 25-30, can be classified as red ware and the remaining three, 31-33, as buff ware.

Red ware.—The results of the examination of the six sherds are given below.

25. This sherd, about 1·4-1·5 cm. thick, is reddish in section and shows a yellowish-buff slip on the interior. The latter has little covering-power and all the striations of the the wheel are quite clearly visible. It shows a marked similarity to sample 16; the fabric is almost identical and so is the nature of the slip and wash. It has been well-fired in an oxidizing atmosphere and is quite hard (about 5-6). It emits a marked metallic ring when struck. Coarse to fine sand was used as a dégrassiant and the pot was turned on the wheel.

26. It is a finely-slipped reddish sherd; both the surfaces have been finished with a deep-red slip. Decorative paintings apart, it is similar to sample 9, particularly if the dark-red slip is taken as a guide. The nature of firing was also similar. In fact, this sherd can be grouped technically under red ware of Period II A.

27. This sherd is reddish in colour; the finish of the exterior surface has evidently been destroyed as a result of weathering. It is about 0·5 cm. thick and shows two zones in section, a deep-red exterior zone of about 2 mm. thickness and brownish-red inner zone of 3 mm. thickness. An examination of the body shows that in composition it is similar to sample 1, and surface-hardness is about the same, viz., 5-6. This pot was fired in an oxidizing atmosphere.

28. This sherd has been described as red ware of degenerate fabric. When compared with sample 2, it is observed that these two sherds are almost alike in colour, nature of ochrewash and hardness. They seem to have been fired to almost the same range of temperature. In section, the present sample shows a reddish outer and inner zone

with a faintly-reddish inner zone. Its body-material is, however, slightly coarser than that sample 2, but the technique of potting, finishing and firing does not show any variation.

29. This sherd, about 1·5 cm. thick, has been well-fired in an oxidizing atmosphere. Its surface-hardness is 5-6. It carries a slip of pale-yellow or buff colour on its outer surface, subsequently painted dark-ochre red. The interior surface is also treated with a thin slip. The section shows a distinct yellowish-buff outer zone of about 1 mm. thickness and a buff inner zone of the same thickness. The central zone, about 1·3 cm. thick, is brick-red. It bears some resemblance in colour and texture to sample 3.

30. This sample, about 1·3-1·4 cm. thick, is coarser than sample 29, but the conditions of firing appear to have been similar. It is well-fired in an oxidizing atmosphere and emits a marked metallic ring. The inner surface is also painted in red about 3 in. below the rim and presents an outward appearance similar to sample 29. Due to weathering, not much can be said about the nature of its surface-finish and it would be desirable to examine a larger number of sherds of this type before final conclusions about any change in the technique of manufacture or methods of firing can safely be drawn.

Buff ware.—Three sherds of buff ware were examined.

31. It has a slip and painting, the latter having disappeared due to weathering. The sample is very similar in texture and colour to samples 18-23. In chemical composition again, it shows a close similarity to the sherds of buff ware belonging to Period II A. It has a calcareous clay fired in an oxidizing atmosphere. It compares favourably with sherds of red ware in surface-hardness and metallic ring.

32. It is similar to the above but is slightly better-finished. It is made of a calcareous clay and has been well-fired in an oxidizing atmosphere.

33. It is painted in black over a chocolate slip. An examination of the sherd in section shows three zones; the two outer zones are reddish and the middle one greyish-buff. The inner surface is buff but is different in colour from samples 18-23. However, this sherd is different from the other sherds of this group, viz. 31 and 32, and it would not be desirable to class it with them.

Period II C

Six sherds, all in red ware, from RGP 2 and RGP 5 were examined with the following results.

34. It is a shining red sherd made of fine clay. The surface is rendered smooth by burnishing and given a slip of finely-levigated red ochre. It is also probable that in its green state the pot was subjected to burnishing with pebbles of haematite, which left a fine powder of iron oxide securely adhering to the surface. The pot was then fired in an oxidizing atmosphere. The decoration in red was evidently post-firing, as the black pigment does not show any evidence of sintering and does not stick firmly to the red surface. Its texture is slightly coarse, similar to that of samples 28 and 30.

35-36. The above remarks apply equally to samples 35 and 36, although the clay used in making 36 is coarser than that in 34 and 35.

37. The sherd is about 1 cm. thick and is with a coarse texture. In section, it shows three distinct zones, the outer reddish zone about 3 mm. thick, the inner reddish zone about 3 mm. thick and a greyish black central zone 4 mm. thick. The outer surface is ochrewashed and painted in black colour The inner surface does not carry any wash, slip or decoration In finish, colour, wash and decoration of the outer surface, the sample resembles samples 3, 4 and 7, but the texture of the body is slightly coarser.

38. This is a reddish sherd of about 1 cm. thickness. In section, it shows three distinct zones, the outer reddish zone of 2 mm. thickness, the inner reddish zone of about 2 mm. thickness and middle greyish-buff zone of about 6 mm. thickness. The exterior has a slip of deep red-ochre colour as well as pale-yellow colour similar to that noted on sample 16. The inner surface is treated with a yellowish-buff slip.

39. It is a coarsely-made pot. The outer and inner surfaces are deep-red with a smoky-grey core which is best seen in section. There is no evidence of burnishing but an ochre-wash or slip was applied to the pot before painting in black.

PERIOD III

Eight sherds from RGP-2 and RGP-5 were examined.

40. The sample shows a lustrous surface. The pot was evidently burnished with a burnisher such as a pebble or a piece of haematite.

41. It shows a very faint lustre. It is painted in black over red. Its texture is quite fine, distinctly finer than that of sample 40.

42. It shows a lustrous red outer surface painted in black; the inner surface is buff. Its texture is fairly fine.

43. It is rather coarse in texture, but on both surfaces it carries a marked lustre and clear evidence of burnishing.

44-46. The above remarks apply equally to samples 45 and 46, but sample 44 shows only a lustrous outer surface, the inner surface being left untreated.

47. It is about 1·2 cm. thick and is very coarse in texture. It shows a burnished outer surface with a faint lustre; the inner surface has evidently lost its lustre and finish due to weathering.

## M. OTHER FINDS

### (i) *Terracotta figurines*

ANIMAL FIGURINES.—Terracotta figurines are the poor man's sculpture. As cult-objects they sometimes throw light on the religious beliefs and social customs of their age. While some of the figurines of Rangpur are crudely worked, better examples of the art in the round are not totally lacking. On the whole, what we witness in Periods II A and II B is a decadent art of modelling unlike Lothal, where the art maintained a high standard throughout. The figurines from Periods II C and III have retained the sharpness of lines more than those of Period II A, since the latter suffered due to waterlogging. The pellet eyes, where they existed, have fallen off. But there is no applied decoration in the form of collar-bands and neck-laces in the case of animal figurines. Figurines with movable heads are rare, a solitary specimen coming from Period II C. But the most significant animal figurines are two undoubted specimens of the horse from Period III (fig. 50; pl. XXX A, *3*). The horse was known in the fourth Phase of Lothal A, as well as in Lothal B. It was known in the last days of Mohenjo-daro also.[1]

Finely-levigated clay was used for making terracotta animal figures. They are generally hand-modelled and baked to a dull-red colour in Period II A and to grey or pink

[1] Wheeler, *op. cit.* (1960), p. 65.